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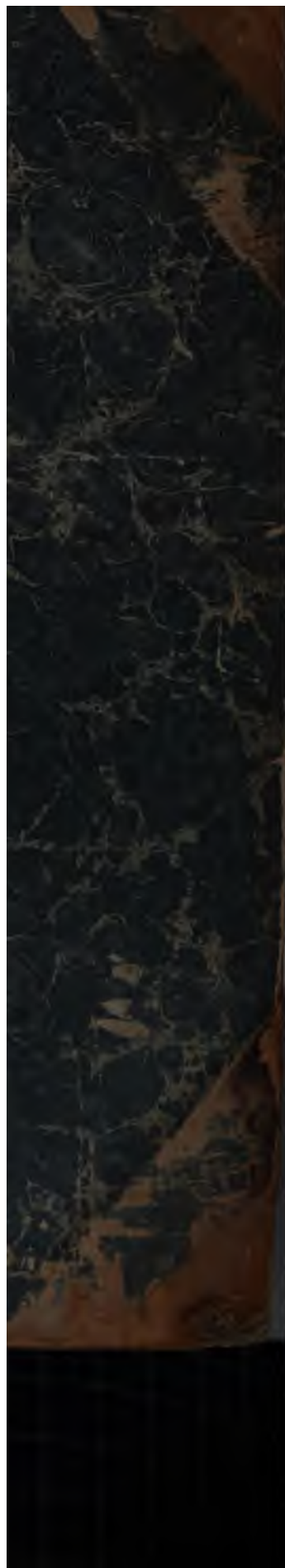
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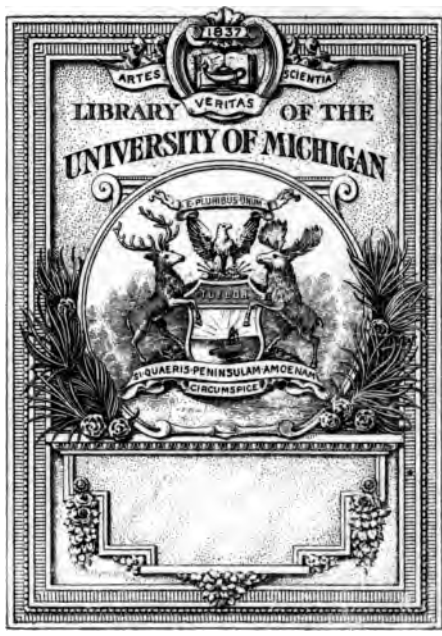
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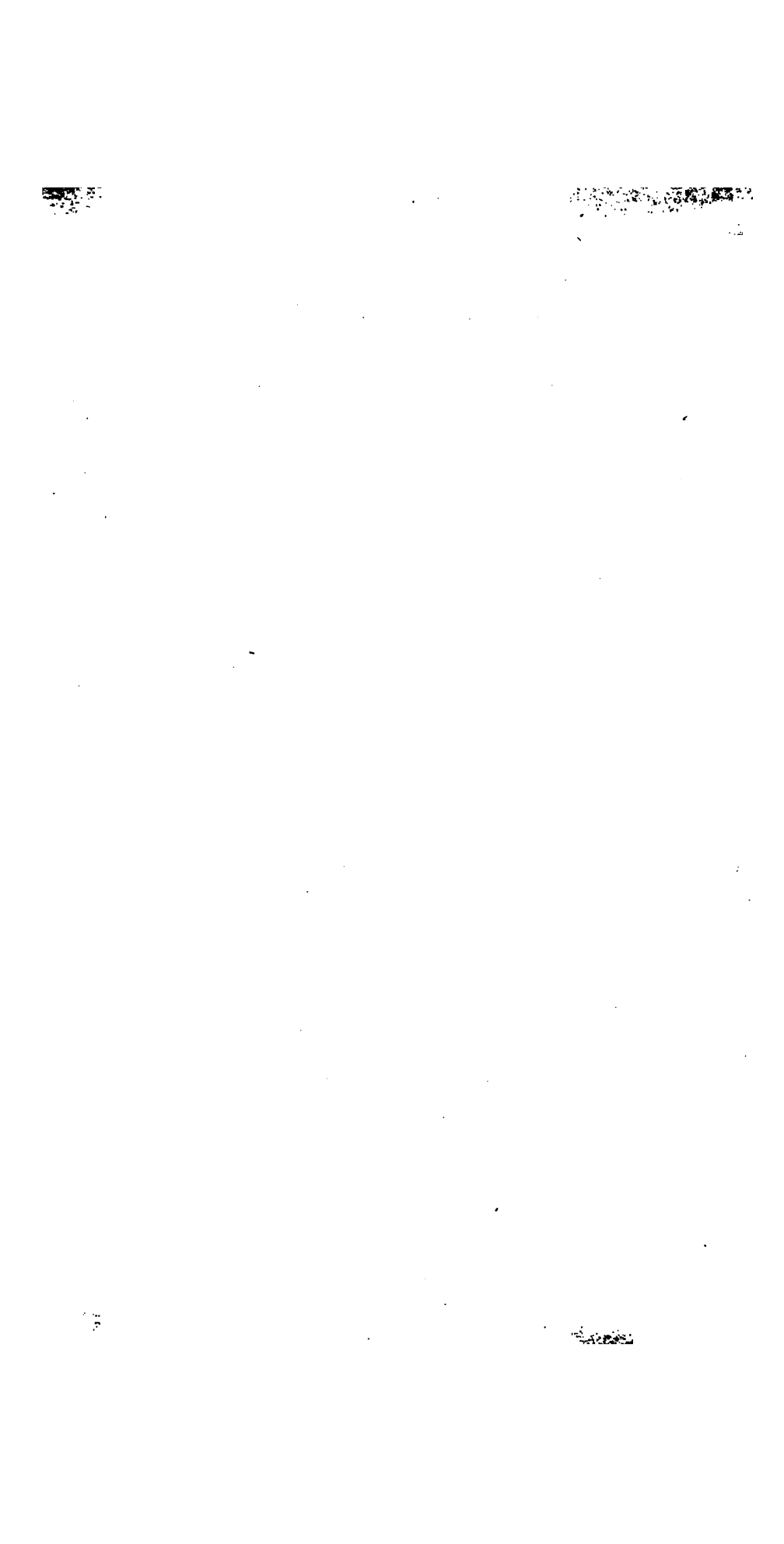
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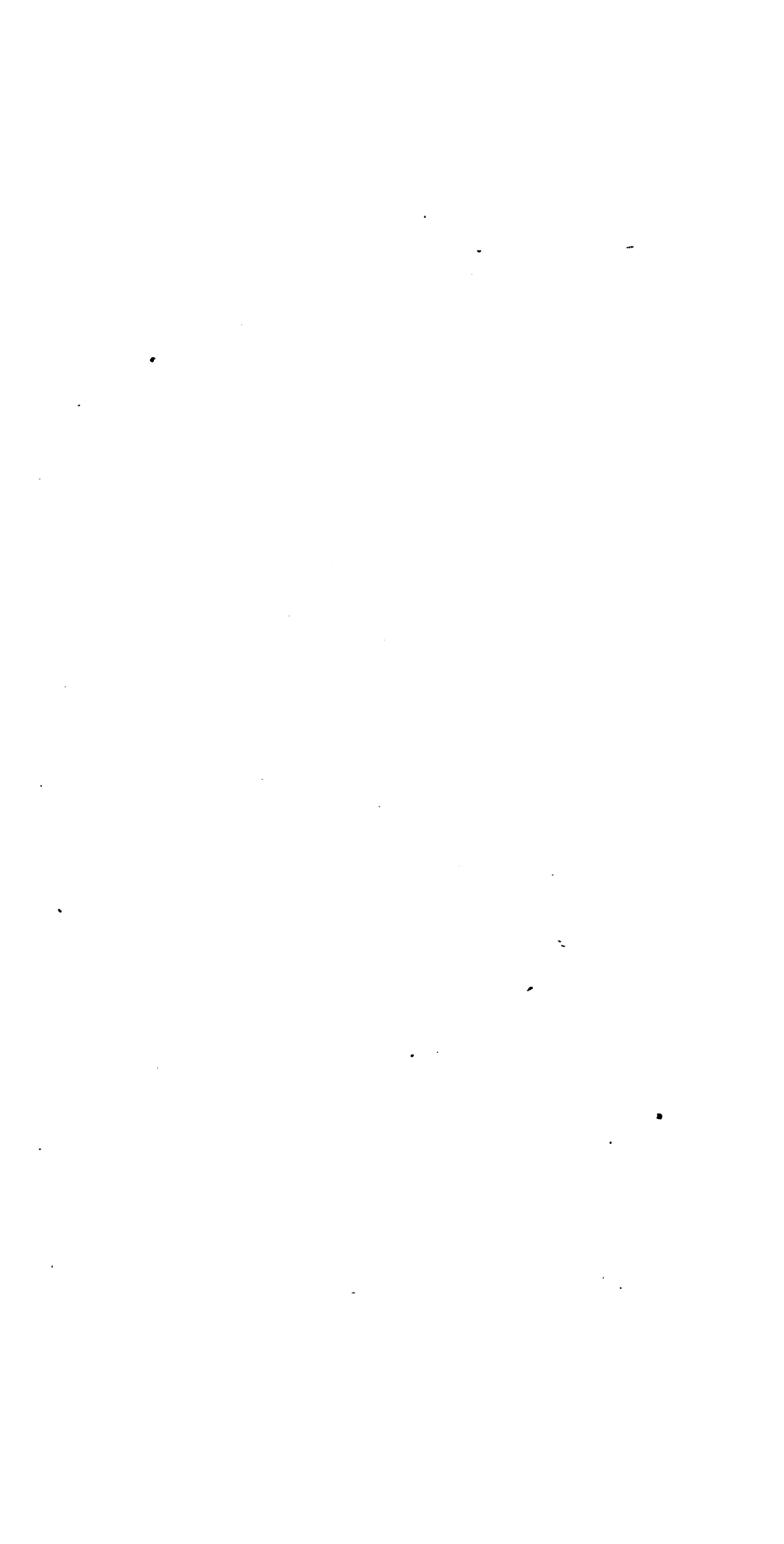
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THE

BERKSHIRE

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MEDICAL JOURNAL,

Devoted to the Interests of Rational Medicine.

EDITED BY

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"Ore trahit quodcunque potest atque addit acervo."

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No. 1.

ORIGINAL COMMUNICATIONS.

ART. I.—*Diphtheria: its History, Nature and Treatment.* By WM. HENRY THAYER, M. D.

Not a generation of physicians passes, without the professional interest being excited by the appearance of a new epidemic, traversing a territory or a continent, carrying consternation with it according to its fatality, and after a few years passing away to be forgotten, until a new set of observers has arisen to illustrate its history by personal experience.

Thus, from time to time, the eastern hemisphere has been ravaged by influenza and the plague, whose first appearance is lost in the early twilight of history. And thirty-three years ago, the cholera began to extend from its habitat in India over Asia, crossed Europe, and came to America; and after a six years' course, subsided for fourteen years into India. Since then it has twice gone its rounds.

There is no regularity discoverable in the recurrence, the course, or the duration of epidemics. Nor has any constant relation been shown to any class of meteorological phenomena. Local hygienic circumstances often determine their severity in certain localities, but in their general course they have appeared entirely independent of all agencies of which we have any conception. Some epidemics are aided in their propagation by infection, and their course

follows the movements of armies, and the journeys of merchants. Others, like cholera, move against the wind, without human agency, and in an erratic course, going in zig-zag direction over the earth, sometimes passing entirely over the nearest city, and visiting a more distant one.

Cholera, yellow fever and plague are endemic in certain quarters of the globe, from which they make their occasional excursions to other parts of the world. Influenza has no habitat, but rises anew in one region, spreads abroad over the earth, and disappears, to revisit us after an uncertain interval.

So diphtheria has no permanent residence, but originates spontaneously, after intervals of various length. Its epidemics have been chronicled at widely distant periods for many centuries, nearly as far back as the Christian era, perhaps earlier. If we judge from its recorded history, its extension has never been very broad in any one epidemic. And this impression is probably correct in respect to the last few centuries, since medical science has been more elaborately cultivated than previously; but whether the long intervals in its visitation for a thousand years before, were intervals in the disease, or merely in the record, may be matter of doubt.

Rilliet and Barthez find diphtheria first described by Aretæus, who lived probably in the second century. It is contained in "Book I. of the Causes and Symptoms of Acute Diseases," and the description will be easily recognized by any one familiar with diphtheria. Bretonneau thinks it was known in Homer's time, and described under the name of "*malum Egyptiacum*." Macrobius speaks of an epidemic of it in Rome in 380. Hecker states that it prevailed severely in Holland in 1517 and 1551; and there is a report from Pierre Forest in Alkmaar, Holland, who gives an account of an epidemic there in 1557. This long interval of twelve hundred years can hardly have passed without any visitation of the disease, but there is no record.

Since the Holland epidemics, the history is much fuller: Spain, Italy and France have been visited by diphtheria several times. But it is within the last forty-two years, and in France, that it has become especially an object of attention. During this period it has gradually spread from the seacoasts to the centre of France, invading by degrees nearly the whole kingdom, prevailing for a year, more or less in a place, and reappearing in the same place several times, at intervals of years. Several of the epidemics have been the subject of elaborate reports by Bretonneau, Trousseau, Isambert, and other well-known Frenchmen, and it has everywhere excited much attention. But out of France it has been read of chiefly as a matter of scientific curiosity. For, since 1818, when it made its first appearance at Tours, until 1856, when California was visited by it, it was confined to France, except that it appeared in the Canton de Vaud, in Switzerland, in 1828.

In January, 1857, the first cases were witnessed in England, in the county of Kent. In that and the following year, it spread along through Suffolk, Norfolk and Yorkshire, and westward through Devonshire and Cornwall, and into some of the central counties of North Wales. Through 1859 and 1860, it still prevailed in various parts of England and in Scotland. Its prevalence was not like that of the cholera, which has been mostly confined to large towns, with many cases and great fatality. The reports from England are made up of cases from hundreds of towns and villages, where the disease was seen more or less, but nowhere with a prevalence so wide as plague, cholera, and yellow fever have had. Its proportionate mortality has been as great as in any of them.

No medical man in Great Britain or the United States, living in 1855, had an experimental knowledge of diphtheria as an epidemic. I believe there is no record of any previous epidemic in England, since the "putrid sore throat" of Fothergill, which has usually been considered scarlet fever. Cullen apparently knew nothing of diphtheria, nor does any systematic British writer describe it as an epidemic disease of which he has any personal knowledge. West and Copeland confound it with membranous croup. Evanson and Maunsell give a correct but meagre account of it, but evidently knew nothing of such an epidemic affection north of the English Channel. Tweedie furnished a very good paper upon it to the *Cyclopædia of Practical Medicine*, but based upon Bretonneau's description of the epidemic at Tours.

In the United States, it was described by Dr. S. Bard in 1771, as epidemic at that time in New York. Its next appearance on the Atlantic side of the continent was in 1857, as in England. Since then it has not been wholly absent. Until 1858, however, there was no serious epidemic in any of the eastern or northern states. A few cases in New Hampshire were all that I have been able to discover in 1857. The sources of public information relating to it are very deficient. The *Boston Medical and Surgical Journal*, in an editorial in September, 1859, refers to some autopsies of diphtheria, witnessed there in 1858; but the weekly reports of the mortality of Boston have never contained the name *diphtheria*, until August, 1860, when there was one death reported, and in October, four deaths. The State of Rhode Island is the only one where state registration can furnish us complete and reliable reports on the subject. The State Report of Rhode Island for 1858, gave six deaths from the disease, five of which were in Providence. The Annual Report for 1859 for the city of Providence, gives seventeen deaths from diphtheria.

The first account of diphtheria in the *Transactions of the Medical Society of the State of New York*, is contained in the volume for 1859. An epidemic at Albany is there described by Dr. Willard, of that city. The disease first appeared there in April, 1858.

The weight of the epidemic was in the following Autumn; in March, 1859, the cases had become rare; and since that time a few sporadic cases only have occurred. In the eleven months of the epidemic, Dr. Willard thinks two thousand cases occurred in Albany, of which one hundred and eighty-eight were fatal. "The first case occurred as early as the second of April, and the second is reported on the twentieth of the same month. From April, no cases are reported until June; the epidemic then increased slowly, there being but few cases until September. The greatest number of cases occurred in November." (*Trans. N. Y. State Med. Society*, p. 184.) Diphtheria prevailed to a greater or less extent in Troy, N. Y., during the Autumn and Winter of 1859—where "it has thus far proved most troublesome by complicating the cases of measles and scarlet fever, which diseases have prevailed quite extensively with us during the Winter months." (*Letter from Dr. Seymour, of Troy, April, 1859.*) In Cortland County, it appeared in May, 1860, and was still prevalent in September. (*American Med. Times, September 29.*) It was also epidemic in Rochester, and other parts of Central and Western New York, during the Winter of '59, '60, of which, however, I have no data. The State Society's Transactions for 1860 contain nothing on the subject of diphtheria. From information furnished by Dr. Bostwick, of Red Rock, Canaan, N. Y., thirty miles southeast of Albany, I learn that the disease appeared in several places in that vicinity while it was prevailing in Albany. It was first seen in Red Rock in December, 1858, where Dr. Bostwick treated twenty-five cases, of which five were fatal. During the Summer of 1859, cases less numerous and less severe, occurred in Lebanon, Austerlitz and Chatham. In Gallatin, Co'umbia County, as I have learned from Dr. Bostwick, it appeared in the spring of 1859, and spread thence into Pine Plains.

In Massachusetts, the only epidemics of which I have heard, have been in Berkshire county. It has prevailed here in rather a mild form, and to a moderate extent, in several towns. In Pittsfield, it appeared in November, 1859. Six cases occurred in seventeen days, of which three were fatal. None have been seen since. In North Adams, it appeared in October, 1859. Dr. George C. Lawrence, of that place, writes: "From October, 1859, to June, 1860, I had eighty-five cases of diphtheria, of mild and severe type." Sixty-eight of them, including the most severe, were seen between November and March. "There was a strong tendency to the air passages. In a few cases, the breathing was croupy from the first. There was great tendency to prostration in the last stages, and in the worst cases diarrhœa." "All my cases recovered. The sequelæ were, an irritable throat for some time, and very sensible to changes of weather, a tendency to cachexy, and in a few cases, dropsy, or rheumatic pains." Dr. Holmes, of South Adams, writes that he treated forty or fifty

cases of diphtheria of very mild type, during the winter and spring of 1859-'60, chiefly among children. No case was fatal. He treated them mainly with chlorate of potassa, locally and internally, and did not use nitrate of silver at all; applied sinapisms and hot fomentations to the throat, and employed inhalations of steam, which relieved dyspnoea and induced rest. "In West Stockbridge," writes Dr. F. Meacham, "there have been eighty-one cases of diphtheria, mostly between June 15th and October 20th, 1860, (the date of the last case;) eight of which have proved fatal. Previously to 1860, Dr. Root, of West Stockbridge, had seen two cases, one in 1859 and one in 1858, one of which was fatal, and the other followed by paralysis of the velum. Of the deaths this year (1860,) five were by croup, one by œdema of the glottis, one by asphyxia from enlarged tonsils and one on the third day of an acute bronchitis, which came on three weeks after convalescence had begun. The only other sequelæ which came to my knowledge were in two cases in which there were paralysis of the muscles of deglutition, aphonia, deafness and loss of vision."

The first appearance of diphtheria in Connecticut, was in the town of Orange, in the spring of 1859. This town lies on the Sound, southwest of New Haven, "in an elevated situation, a remarkably healthy place, with only a sparse population." The disease appeared in March, and for a while was confined entirely to the scholars attending a select school in the village, but who were boarding in different parts of the neighborhood." Fourteen cases out of fifteen of those first attacked proved fatal, in periods varying from six to twenty-four days. Twelve of these cases were in three families, four in each." Dr. Beardsley's report of this epidemic, from which I have quoted, does not mention the number of cases that occurred in the town. He states it to have taken place in March and April. A letter from Prof. Jewett of New Haven, dated April, 1859, says, referring to Orange: "This epidemic was the first of the disease we have seen in Connecticut. Since that time we have had a mild form of it in different portions of the State. In Canterbury, Windham Co., (sixty miles from Orange and twenty from Providence,) the disease has prevailed quite extensively during the past winter, (1859-60.) Several of the early cases were fatal. In New Haven the cases have been few in number, and for the most part very mild. We have had but few deaths. The fatal cases have all been complicated with croup, and we have had but few recoveries where this complication has existed. The epidemic in Orange and Canterbury will comprise a history of the disease for the State, except the sporadic cases. In Fairfield County it has appeared in a mild form during the winter and spring: the mortality has been small."

Dr. William L. Wells reports in the *Chicago Medical Examiner*, an epidemic of diphtheria in Menomonee, a small town near Mil-

waukie, Wis., of 136 cases and 4 deaths, beginning with July, 1859.

There is little doubt that physicians in a great many towns in New England could report a few scattered cases of the disease, of which the absence of active medical societies and public registrations now keep us ignorant. It is true of parts of Massachusetts and New Hampshire, as we have seen it is of Connecticut. Out of New England, also, diphtheria has been making its appearance over a wider extent of country,—in a considerable part of New York and in States south of it,—of which we can only speak from rumor, and therefore have nothing further to say in this place. The next year or two will perhaps show that in many places these sporadic cases are the forerunners of grave epidemics. At present, Albany is the only place on the eastern side of the continent, which has been the seat of a serious and extensive epidemic. California was visited severely by diphtheria in 1856, through the counties lying around the Bay of San Francisco.

PATHOLOGY.

Diphtheria, or diphtherite, (a name derived from the Greek *διφθερίτης*, “clad in a leathern frock,” suggested by the leathery appearance of the peculiar exudation,) is the name given to an exudative inflammation of the fauces and pharynx, with a tendency to extend itself over the mucous membrane, into the posterior nares, the larynx and the œsophagus, and attended with very grave constitutional symptoms.

Diphtheria presents a considerable variety in the character of its symptoms in different epidemics, in the same epidemic, and in different localities. Like other zymotic diseases, it has a much graver character at the beginning than at the close of an epidemic; but even at first, many cases are met with which are comparatively mild.

By some authors it is divided into three distinct varieties; mild, croupal and malignant. These varieties are, nevertheless, found in the same family, at the same time; and cannot be considered so distinct as to make it objectionable to describe them together. The mild and the malignant differ mainly in degree, and the croupal is different from them only in an accidental manner.

As most generally seen, diphtheria begins with a general febrile action: hot skin, rapid pulse, languor, anorexia, thirst, and usually vomiting. The fever is not intense, and abates in a great measure in the course of twenty-four hours. Some complaint may be made of the throat, and the voice is somewhat thick, but not hoarse.* One physician describing a very malignant form of the

* In a limited but very grave epidemic at Orange, Conn., Dr. Beardsley reports: “The first symptom, and one which we have never seen referred to by any writer, was *pain in the ear*. It was present in almost every case that came

disease, says, that on the first day, "to the important question, 'Is the throat sore?' the answer is always the same, '*Not in the least.*' The reply, to a physician inexperienced in the horrible malady, may be fatal to the patient. The diagnosis is that this is not a case of diphtheria. On the other hand, the experienced man *expects* this reply; he forthwith carefully examines the throat, and then he *sees* the disease. In this early stage, the tonsils, the soft palate, and the back of the pharynx, present a bright shining red appearance. The small vessels are not seen individually injected, as in many forms of sore throat, but the appearance is as though the parts had been brightly painted and then varnished." The tongue is covered with a light coat. The bowels are natural, the urine scanty and high colored. The tonsils can be felt through the skin, slightly enlarged; and on examining the throat, the entire fauces and pharynx are found as just described, the redness sometimes extending forward to the edge of the hard palate, sometimes encroaching upon it. The redness is commonly a vivid scarlet at first; after the first day it is found to be of a dull raspberry red, or it may have this dusky (erysipelatous) hue from the first. The tonsils, uvula, and velum palati, are more or less swollen. The swelling is not at first very considerable but the redness is seen at the outset. On different parts of the fauces may also be seen one or more spots of white, yellowish white or grayish white false membrane. In most cases this is visible on the first day, in some not earlier than the second, third or fourth. The tonsils are its chief sites. In some cases a single patch appears on one tonsil, in others both tonsils exhibit a number of mere white points at first, and on the next day a large white patch appears in their place, as if from their coalescence; in others the whole fauces are invaded with it early and simultaneously. Meantime the swelling increases, especially of the fauces, so that the tonsils and uvula eventually close entirely the isthmus faucium, and respiration is restricted to the nose. This is not, however, invariable—the swelling is not always commensurate with the malignancy of the disease; even in some fatal cases it is quite moderate. The pain in the throat is not at any period so severe as in tonsilitis, but the difficulty of swallowing becomes considerable, and is further increased by the accumulation of tenacious mucus in and about the pharynx, which also creates a serious obstacle to free respiration.

At this time, in from two or three days to a week after the invasion, a muco-purulent discharge begins from the nose and throat, increasing still more the difficulty of respiration. The swelling

under our observation, for a day or two before the patient made the least complaint in any other respect, and before the smallest point or concretion of lymphatic exudation could be discovered on the tonsils or elsewhere.—*Boston Med. and Surg. Journal*, June 30, 1859.

may extend forward into the mouth, including the tongue and cheeks, with excessive action of the salivary glands, so that a stringy fluid, composed of mucus and saliva, flows from the mouth, to the constant annoyance of the patient. And when the tongue and cheeks are much swollen, it is difficult to open the mouth or get rid of the saliva.

In many cases the submaxillary glands become involved at this advanced stage; and the patient presents an appearance of extreme distress, with face and neck swollen, eyes suffused, foetid saliva running from the mouth, and a foetid purulent matter from the nose, which irritates and reddens the upper lip. The articulation is very indistinct, the breathing noisy and labored, and deglutition very difficult and distressing. The fever, which was never high, and abated much before the third day, seems to have entirely gone; the skin is now pale and bluish, the lips livid, the capillary circulation of the extremities sluggish, the pulse very compressible, and of less than natural fulness, varying from 120 to 140 (in a child.) The patient is languid and weak, and has lost all desire for food. Then comes a marked change. The discharge from the nose begins to be sanious. The gums and fauces bleed. The swelling of the mouth and fauces abates, the tongue, which has been moist, grows dry and brown, sordes accumulate on the teeth, blood is vomited and perhaps passed by stool, a tendency to diarrhoea appears, and petechiæ appear on different parts of the body. The patient grows extremely restless and rapidly sinks, and dies in a day or two after the change, asthenic or comatose.

In other cases the false membrane extends into the larynx, with the symptoms of simple membranous croup, and death takes place before the condition of extreme depression has appeared. In the epidemic at Albany in 1858-9, it is stated that half the deaths were from the laryngeal extension. In other cases the adynamic condition which belongs to the disease, may continue to a fatal termination, without hæmorrhage, or very great swelling of the fauces, or membranous laryngitis. Thus, a girl of thirteen years of age came under my care in May, 1857, with very moderate diphtheric inflammation of the fauces. After several days there was partial improvement, and the patient was considered beyond the necessity of daily attendance. Nine days from the attack she rode to my office. On the fifteenth day she became again confined to the house, and soon to her bed. The throat was only moderately swollen, but the false membrane continued, and she became troubled with daily vomiting, which persisted to the end, with daily increasing debility. She grew extremely restless, and finally hastened her death, already inevitable, by getting out of bed in her uneasiness, and died of syncope in a few minutes, on the twenty-fifth day. The only grave symptoms through the whole were not peculiarly connected with the throat,—or rather, I might say, the swelling of the throat was quite

moderate, and the larynx was unaffected, neither was there any hæmorrhage. But the vomiting resisted all remedies, and the weakness of the pulse and the general appearance of debility were daily increasing.

The strength of the patient is sometimes—except in rapid and grave cases—sufficient to allow him to be up and about for several days at first. But he is finally confined to the bed, and the manner in which death was hastened in the case just referred to, is an indication of the danger of assuming an erect position in diphtheria, in an advanced stage, or when the pulse is feeble. Those who have seen epidemics of cholera, will recollect a similar peril in that disease, and not very unlike it is the death from syncope that follows the assumption of the erect position, even several days after great hæmorrhage.

There is usually no cutaneous eruption. The Lancet Commission, however, reports of the disease in Hadamar, in 1853, that “the interesting feature of that epidemic was that it was often accompanied at its commencement by a miliary exanthem, which appeared on the arms, clavicular region, and at the borders of the axilla. This has occurred more than once in England, and this eruption has been commonly but erroneously described as that of irregular or suppressed scarlatina, with which it has nothing in common.”

The urine presents nothing remarkable, except that in some cases it has been reported albuminous. It has been frequently tested for albumen, without discovering any.

There is no cough, nor evidence of any pulmonary complication, except when congestion of the lungs follows the croupal attack.

The mind is usually clear, unless at the approach of death, when there is usually more or less somnolency, and sometimes moderate delirium.

Suppuration is not a common occurrence in the early period; but where great engorgement of the submaxillary and parotid glands has taken place, the surrounding cellular tissue is found, after death, infiltrated with a sanious pus. In this characteristic engorgement, the swelling of the neck becomes very great, the glands often projecting far beyond the jaw. The submaxillary glands are more or less involved in all cases of diphtheria, the cervical glands only in those of a grave character.

In France, but very rarely in England, patients who have had any abrasion of the cuticle, have been subject to exudative inflammation of the injured part. “Thus, in the progress of an epidemic, leech-bites, blisters, fissures of the breast, excoriations of the scrotum, of the hairy scalp, of the nose, vagina, and other various wounds, might become the seat of diphtheritic inflammation. * * When a wound is attacked by diphtheritic inflammation, it becomes painful, fetid, and discolored; serosity pours from it in abundance, and a gray, soft coating soon covers it with a layer of

increasing thickness; the edges swell, and become violet. The wound remains often obstinately stationary for months."—(*Lancet Commission*, p. 289.)

Besides the throat, diphtheritic exudations are sometimes formed at the same time on the mucous membrane of the vagina and rectum, but are not found on mucous surfaces which are entirely removed from contact with the air.

It is proper to notice here, that, although preserving always its peculiar character of a membranous inflammation of mucous membranes, it has been observed that in different places, the inflammation has manifested a preference for different parts of the mucous surfaces, or has made its onset in special portions. For instance, in the Pyrennees, diphtheria was eminently croupal. In the department of Haute Marne, as described by Jobert, it had a marked predilection for the nasal fossæ; it appears to have attacked this region at the outset in more than one case, determining then severe epistaxis. The involution of the nasal fossæ is considered a serious complication, and Bretonneau and other authorities concur in urging the most careful attention to the condition of the nasal mucous membrane. Lemoine at Nievre, who adopted the wise precaution of examining every day the children of a district school which was placed under his care, found that enlargement of the [submaxillary] glands very often preceded the production of the false membrane: and, in many cases, having learned this, he was enabled to avert the formation of the membrane, or at least greatly to modify it. Lemoine found also that when the false membrane attacked the nostril rapidly, the prognosis was very grave.

There is also in different localities a difference in the intensity of the disease. In some places, several days elapse in most of the cases before the general health has become so seriously disturbed, or the throat has caused so much discomfort, as to induce the parents to take medical advice. The patient may still be about the house, exhibiting indeed an appearance of *malaise*, but not exciting alarm in those unaccustomed to the disease. On the other hand, the onset is sometimes sudden and violent, and the course of the disease short, and some authors have reported their fatal cases to have been of this character. Dr. McDonald, of Bristol, England, gives a vivid relation of the disease as drawn from his fatal cases. He finds them suddenly seized with violent vomiting and purging, of a thin yellowish-white, offensive matter—lasting an hour—followed by stupor and prostration, and then heavy sleep for hours, with fever. No soreness of the throat at first, although the whole fauces and pharynx present a bright red appearance. In from six to sixteen hours from the onset, the stupor is succeeded by delirium, usually violent; the red throat becomes spotted with white, which soon conglomerates, forming one thick, plastic deposit, covering sometimes the whole fauces

and palate, "so that the appearance on opening the mouth is as though it were lined with plaster of Paris." The violent delirium then subsides, the powers of life fail rapidly, horrible sensations of choking and suffocation come on, purpuric spots form on the extremities, "diarrhœa of white, offensive matter is incessant, muttering delirium comes on, and in a long tetanic convulsion, death closes the scene." "This," says Dr. McDonald, "is a truthful picture, drawn from realities, of how a previously strong and healthy man, may in six days or less, cease to be." It will be observed to have several material differences from the disease heretofore described.

The principal anatomical characteristics of diphtheria have already been described in a general way on a previous page. Recalling attention to what was there said on the formation of the false membrane, I would further say that the exudation originates perhaps in the mucous follicles, and extends outwardly, involving the whole surface.* In this way we may account for its first appearance frequently in distinct points on the surface of the tonsil. From these points of departure the exudation extends, if unmolested, from day to day, or from hour to hour, over more or less of the fauces and pharynx; and finally has no regular and constant limit, spreading sometimes into the posterior nares and eustachian tubes, into the œsophagus, or into the larynx and trachea. Sometimes, as it extends its circumference, it disappears in the centre; but this is perhaps only under the influence of topical treatment, and in mild cases. The thickness of the false membrane at first does not exceed a line, and according to Rilliet and Barthez, it is sometimes extremely thin and semi-transparent. This primary thickness is steadily increased by successive exudations, until it may reach a depth of three lines, if not interfered with. Many writers on diphtheria describe the membrane as thin. Thus, the Boston Medical and Surgical Journal, of Sept. 29, 1859, in an editorial, says, "Almost every one now means, by diphtheria, an epidemic disease, characterized by great and rapid depression, and by the exudation of a thin, soft, pultaceous substance upon the mucous membrane," etc. And in the same article, the editors object to the use of a word meaning a *thick* membrane, for the name of a disease which they say has a *thin* membrane. I think it will be easy to show how the error has arisen. The thickness and consistency of the membrane will be found to depend upon the period of the disease at which the examination is made. There is good evidence that the exudation is deposited in successive layers. Dr. J. B. Sanderson, in a report to the Epidemiolog-

*"Under the exudation, the submucous tissues and mucous membrane are usually thickened, and the mucous follicles are enlarged, and filled with the same matter, which can be squeezed out—and from which the exudation seems to be produced."—Dr. W. R. Rogers, *Lancet*.

ical Society of London, says that the membrane is capable of separation into layers, which he has ascertained by microscopic examination. There are cases, which first came under medical treatment on the third or fourth day, when the false membrane has been found to have a thickness of a quarter of an inch, probably the accumulation of many laminæ, the natural result of a progress of several days without the application of anything which would destroy or remove the membrane. At this period it has firmness sufficient to allow of its removal with forceps. If removed one day, it is almost invariably replaced before the next, and these removals continue till death approaches or convalescence begins—an explanation of the reason of its being found in layers. If removed daily, it is not strange that it should not often be seen to have great thickness. And when it is described from post mortem examination, it is not surprising that it should be spoken of as “thin, soft, pultaceous.” For after each removal by art, or spontaneous casting off, the renewed membrane is thinner and softer than that which preceded it—so that, at death, it may be almost diffident.

When death occurs from laryngeal obstruction, it is usually at an earlier period, and before the supervention of the symptoms of extreme depression—and the membrane in the larynx is found, as might be expected, of a more considerable thickness.

After removal of the exudation from the fauces or pharynx, it sometimes fails to re-appear on the same spot, but is formed upon the contiguous mucous membrane, and may in this way creep over the surface of the pharynx, extending down the œsophagus, upward into the posterior nares, or forward over the cheeks and gums. It is probable that in some cases which exhibit this tendency, there would be a progression over the surface, instead of a succession of layers, one under another, even without the interference of art. It is apparently in this way that a single layer sometimes spreads through the larynx and trachea, and over a considerable surface of the bronchi, without producing croupal symptoms—since it never attains great thickness.

At first, while the swelling of the fauces is moderate, the exudation-membrane projects beyond the surface; as the swelling increases, the membrane appears depressed, and has often been described as covering an ulcer. This, however, is disproved by examination. For on stripping off the false membrane, the mucous membrane beneath is found entire, red, and bleeding; or a simple abrasion of the mucous membrane is sometimes discovered, and no more. Apparently the portion which deposits the exudation does not swell to the same extent with the surrounding surface, so that the false membrane appears to rest in an excavation, with the red mucous membrane forming a ridge about it. The resemblance to a sloughing ulcer is still further increased by a change in the color and consistency of the false membrane from day to day. It grows

dark, soft and foetid, and looks and smells strikingly like an eschar ; and has led physicians to assert that gangrene of the fauces comes on in the course of the disease. The dark spot, with foul sanious discharge and foetid odor, is really the decomposing false membrane, under which the surface of the throat may be discovered, sound, or simply deprived of its mucous membrane.*

The microscopic characters appear, by the observation of different microscopists, to have varying proportions of corpuscular and fibrinous elements. Dr. Sanderson, of Hertfordshire, England, infers from his examinations, that the membrane, when first formed, consists mainly of cellular elements, the later exudations containing more fibrine. It is capable of separation into layers, and contains "molecular particles, matted epithelium-cells of all kinds and shapes, pus, and blood cells."

In 1858, Dr. Laycock, of Edinboro', published the opinion that the diphtheritic exudation depends on a parasitic fungus, the *oidum albicans* ; and in January, 1859, he communicated to the London Lancet some further views, derived from analogy, that not only was the fungus in question the essence of the disease, but that its spores might perhaps be found in the blood. The subsequent testimony of Dr. W. R. Rogers, furnished to the London Medical Society, ought to set this theory at rest. In fourteen cases, carefully examined by Dr. R., "the *oidum albicans* was absent in all but one ; and even in that case, the fungus was not found at first, but was first discovered upon the membrane forty-six hours after its removal from the patient." "This fungus," according to Berg and Gubler, "may be developed on any acid thickened mucus of the mouth and throat, as is seen in many chronic diseases." And whenever found, it is so much superadded to the disease. Algæ and fungi are constantly found between the teeth and in other parts of the mouth of the most cleanly persons—as has been well described by Dr. H. I. Bowditch and others ; and it is reasonable to suppose,—says Dr. Harley, who made similar examinations to those of Dr. Rogers,—that they may occasionally attach themselves to false membranes. These remarks were made in relation to the *leptothrix buccalis*, alleged to have been found in the exudation. Dr. Harley also showed that some yellowish-colored masses taken from the pharynx, œsophagus and stomach of a diphtheritic patient, after death, and which were pronounced, after microscopic examination by experienced observers, to contain numerous algæ, in reality had no algæ, but only crystals of fatty acids. It is a fair inference from the facts, that whenever any vegetable parasite is found in the diphtheritic membrane, it is an

* Several observers in this country have spoken of cases which terminated in sloughing of a large part of the tonsils and soft parts around, which should perhaps be regarded as exceptional, if the fact can be established. Most cases of supposed sloughing have been doubtless merely decomposition of the exudation.

accidental circumstance, and has no peculiar connection with this disease.

The most noticeable feature in the pathology of diphtheria—and the most important in view of the prognosis and the treatment—is that which may be called the blood-poisoning, that condition of the blood evinced by the hæmorrhage, and by the adynamic symptoms which appear at one stage or another in nearly all the cases. In ordinary cases these symptoms appear after three or four days; in those of the greatest malignity, they are visible at the outset; in a certain proportion of cases which recover, they become more manifest during the convalescence than previously. The condition of the blood must be judged from the results, for we have not, I think, any analysis of it in diphtheria; but there is little doubt that there is more or less disintegration of the red corpuscles, and that the malignancy of the disease is in proportion to the extent of this destruction. Whether or not this constitutes all the visible changes in the circulating fluid, it is evidently rendered unfit for healthy nutrition by a putrescent poison. If the co-existence of renal disease with diphtheria, or its occurrence during the convalescence, should be established hereafter as an occasional fact, it will furnish another evidence of a peculiar blood-poisoning. Several observers have reported single cases in which the urine was found to be albuminous, while others have failed to find albumen in repeated examinations. Dr. Sanderson, in a report of fifty-three cases, says, “the urine was found to be albuminous in most of the cases in which the necessary observations were made,” but fails to tell us how many cases he did examine. (*Lancet*, Aug., 1859.) Dr. W. F. Wade, of Birmingham, says, “The very first post-mortem examination revealed important organic changes, (in the kidney more especially) which I had not been led to anticipate; following up this clue, I tested the urine carefully and systematically during life, and found that indications of impairment of the renal functions were constantly precursory of an unfavorable termination. These are the cases in which the patient, to all appearance free from risk, is suddenly seized with croupy breathing, and is in a few hours beyond hope.” (*Lancet*, Feb., 1859.) Some other physicians would make albuminuria a diagnostic between this disease and scarlet fever. Dr. Asham, physician to Westminster Hospital, London, speaking of certain varieties of scarlatina, says, “The (albuminous) condition of the urine will, I believe, if any doubt remains, distinguish the scarlatinal from the diphtheritic disease. By some writers in the weekly medical journals, the urine in diphtheria has been described as albuminous. But, with every respect for these communications, I should venture to class the disease as scarlatina rather than diphtheria.” So few reporters have made any examination of the urine in diphtheria, that it will be difficult at present to decide upon the connection of renal disease with it. The subject will come up again when we

speak of the diagnosis of diphtheria. At present, I will only suggest that the existence of degenerated kidney will be no decisive evidence of either diphtheria or scarlatina, but results from such alteration of the blood as we find in either of these diseases.

The only point in the anatomy of diphtheria not yet specially described, is an inflammation of the salivary glands and the neighboring lymphatics, which arises in a large proportion of the cases. At first it is merely a congestion, succeeding the first symptoms by several days, which in moderate cases may subside without inflammation. But in grave cases, the submaxillary and parotid glands, and sometimes also some of the cervical glands, become immensely enlarged and softened, and the surrounding areolar tissue infiltrated with pus—the whole producing one large, uniform, doughy swelling, which fills up the neck to the level of the jaw, or even extends beyond it. The pus is discharged finally through the skin, in cases which recover; in fatal cases, death usually occurs too early to allow it to point.

CONVALESCENCE.

Thus far our attention has been bestowed upon diphtheria with a fatal issue, and the condition of the organs after death. It is necessary to describe the manner of convalescence, which is as peculiar as the primary affection.

The convalescence is protracted and uncertain. The debility incident to the disease continues, even in mild cases, for weeks after the exudation has disappeared from the throat. In the epidemics of the last three years, there have been new and remarkable sequelæ, or which at least were previously so rare as not to have attracted the general notice of the medical profession in France. Trousseau, Bretonneau, Bouillon-Lagrange, Blache and others, have referred to this; but they were first fully described by Faure, of Paris. The following summary of this peculiar condition, made by the British and Foreign Medical Review from Maingault's description, gives a good picture of it. "Two or three weeks after all throat affection has disappeared, the first symptoms of paralysis show themselves; they are developed slowly; the patients may even have made considerable progress towards recovery before they occur. The first thing noticed is a paralytic affection of the soft palate, characterized by a difficulty of deglutition and a nasal speech—phenomena that may entirely disappear when the general muscular weakness shows itself. In some patients there is sudden emaciation. Vision becomes imperfect, and even complete blindness may supervene. The strength fails gradually; formication occurs in the extremities, accompanied by more or less severe pains in the joints. Walking becomes more and more painful, until the upright position is impossible.

The paraplegia is then complete. The upper extremities partake in this weakness, the head becomes too heavy and sinks on the chest, the muscles of the trunk are incapable of sustaining the weight of the body. Strabismus, distortions of the face, dribbling, defective articulation, and paralysis of the bladder and rectum, also supervene. There is an entire absence of fever, the pulse is small, and is reduced even to fifty; at the same time, the heart's action is tumultuous, and there are anæmic murmurs. With these and other symptoms of defective innervation, the intellect remains intact, but the mental powers are sluggish. The disease may proceed to a fatal termination, or, if it terminates favorably, the patient's strength returns gradually, and a cure is effected in a period varying from two to eight months."

This is an account evidently drawn from the gravest cases; some of the symptoms here enumerated are found singly in many cases, which recover. I infer, from the references made in several of the reports, that paralysis of the velum palati is, next to a more general debility, the most common of the symptoms that interrupt convalescence. A number of very mild cases of diphtheria occurred in Keene, N. H., in May and June, 1857, of which only one was fatal. The convalescence was generally slow; and one patient had paralysis of the velum. It was a girl, five years old. She ceased to gain strength about two weeks after the exudation had disappeared from the throat, and her speech began to be indistinct, and soon grew almost unintelligible. On rising in the morning, she was a little stronger and spoke more distinctly, but grew worse in both respects as the day went on. The child was pale and emaciated, and recovered only after four weeks more, under the use of tonics. In an epidemic in Hertfordshire, England, in 1858, described by Dr. J. B. Sanderson, he reports the "convalescence slow; loss of muscular power of lower limbs; impairment of vision; complete paralysis of the velum palati, frequently persisting for some time after restoration to health in other respects." In a very slight report of the Albany epidemic, published in the Transactions of the N. Y. Medical Society for 1859, it is said, "The period of convalescence is uncertain, usually extending through two or three weeks; but in some cases, after a longer interval than this, inanition may supervene as a sequel of the disease, and destroy life." From accounts received from several sources, it appears that the patient continues in peril as long as the state of inanition lasts. Dr. Wm. P. Seymour told me that in the epidemic just spoken of, patients would die suddenly while convalescence appeared to be making progress, though moderate, several weeks after the exudation had disappeared—in a state of syncope. Apparently, a depraved quality of blood had the same effects that follow a deficiency in quantity.

CAUSES.

It is now necessary to estimate the various circumstances which

influence the origin and spread of diphtheria, by inquiring into the operation of age, sex, season, climate, topographical position, neglected sanitary precautions, infection, etc.

In regard to the influence of *age*, the evidence has been strong, ever since the first report of Bretonneau in 1824, that by far the largest number of the subjects of diphtheria are children. In Paris in 1855, it is reported as expending its force chiefly on children, but carrying off adults also. In Avignon, where it appeared in a French regiment in 1853, four per cent. of the soldiers were attacked, and eighteen per cent. of the children belonging to the regiment. In Boulogne, of 366 fatal cases, 341 were of children under ten years of age. In Albany, in 1858-59, of 188 fatal cases, 185 were children. In California, around the Bay of San Francisco, Dr. Fourgeaud describes the mortality amongst children as having assumed an appalling character when the disease was epidemic there in 1856. In fact, all writers who make any reference to the age, speak of diphtheria as almost exclusively a disease of children.

As to *sex*, there is hardly any record to show whether one predominates over the other in its tendency to the disease. Dr. Willard says that in Albany the girls who died outnumbered the boys by one-third.

No preference of *season, climate, or geographical position* has been discovered. In Albany, it began in April, and after June slowly increased; but there were few cases till September, and the greatest number of deaths took place in November. In Boulogne, it prevailed through two entire years. The Lancet Sanitary Commission, deriving its conclusions from the numerous reports of the disease through many years in France, and for two years in England, says, "It appeared to be equally independent of all atmospheric conditions. Was a theory formed that its intensity depended upon the solar influence, and that the heat of the summer months lent fresh force to its destructive attacks—soon it raged with greater violence in the winter months, and during the cold season. Was a connection traced between the localities of its invasions, and the marshy, ill-drained character of the land—the next season it was found to ravage dry and elevated stations with equal rage." "Failing, therefore to find a satisfactory key to the etiology of diphtheria in the study of meteorological or cosmic conditions, we must look at the facts which these epidemics offer in relation to individual and hygienic circumstances which affect them directly or as predisposing causes." All those depressing hygienic influences which favor the spread of other zymotic diseases, are fruitful causes of this. Poverty, hunger, and dirt—crowding, foul air, and all the miseries that are so often associated in the houses of the poor, are active in producing the approach of epidemic diphtheria. And it is a peculiarity of the disease that it runs through a single family, attacking every member of it, while

the neighbors may be unaffected ; or through a few families in a neighborhood, while the remainder of the town escapes. Unlike cholera, which is scattered over a larger community, or influenza, which leaves hardly a family untouched, it is confined to a small proportion of families, sometimes sweeping off all the children. In 1828, Trousseau saw thirteen persons die, out of seventeen, on one farm—all being attacked with diphtheria.

But while it prefers the places where all sanitary regulations are disregarded, it does not exempt the wealthy and comfortable, or those of well-ordered households ; in whose habitations, those who are debilitated by disease, or the inheritance of a defective organization, are most liable to become its victims. In the fever-ward of the hospital at Avignon, nearly all patients who were attacked, died ; whilst, among the others in the house the mortality was only six per cent. Except, however, in cases occurring after such adynamic affections as those referred to at Avignon, diphtheria does not show the tendency to extend in well-ventilated, well-conducted houses, that is more evident among the more neglected and unwholesome. "The malignant form," says Tweedie, "has often appeared in hospitals and workhouses ; and it has been generally observed that when it broke out in such situations, it was confined to young children, and that the first cases occurred when the wards were crowded, under which circumstances it spread with frightful rapidity." Its prevalence in such situations, and its extension through a family, have given rise to the opinion in many quarters, that diphtheria is contagious. As a matter of considerable importance, it is proper to examine the grounds for such an opinion.

The terms contagion and infection are often used indiscriminately ; but in the question of diphtheria, we are able to consider them separately, and we use each term in its strict sense. First, there is no doubt that the disease is communicable by contact of the exudation with the mucous membranes or with the skin. The evidence on this point is chiefly from some of the French epidemics. Bretonneau has presented the following cases : "A child, seized with diphtheria, who had transmitted the disease already to its nurse, was placed under the care of M. Herpin, surgeon to the hospital at Tours, and professor at the school. At one of his visits, by access of cough, part of the diphtheric matter was ejected from the mouth while the process of sponging the pharynx was being performed, and it lodged on the aperture of the nostril of Mons. Herpin. Occupied with his task, he neglected for a moment to remove it. A severe diphtheric inflammation of the part ensued, which spread over the whole nostril and pharynx. Extreme constitutional disturbance occurred, and the prostration was so severe that convalescence occupied more than six months. Dr. Gendron, of Château de Loire, received on his lips a shower of tracheal diphtheric exudations, expelled by a young patient during

the act of coughing. Laryngeal diphtheria set in with urgent symptoms. Prompt measures saved him. In 1826, in the military school at Tours, when diphtheria prevailed, a boy affected with frostbites of the foot, happening to use a bath that had been employed for a diphtheric patient, his great toe became forthwith the seat of painful diphtheric inflammation." Cutaneous diphtheria, which has been noticed in France more than elsewhere, has been developed upon surfaces abraded of the cuticle.

There can be no reasonable doubt of the contagion in the cases just related. The proof of it is not invalidated by the failure of Dr. Harley's several attempts to communicate the disease to dogs by applying the exudation matter to their mucous membranes;* and even had the subjects of his experiments been human beings, a large number of negative facts of that kind could not outweigh the well-attested, positive observations—especially such a one as that of M. Herpin. Such exposure as his is doubtless rare; were it more frequent, it is probable that the contagiousness of the disease would be much more evident. These cases, however, are sufficient to show the necessity of great care in operations which expose the physician or the nurse to such a danger. In the question of the communication of a disease from one individual to another through the medium of the atmosphere, there is often room for doubt whether it is conveyed in that manner, or both cases have arisen from a common epidemic influence; but it would be unreasonable skepticism to deny that the application of the false membrane was the cause, when the peculiar inflammation spread directly from the spot with which that exudation came in contact.

Secondly, in regard to *infection*—by which I mean the transmission of diphtheria from one person to others, through the medium of the atmosphere—the evidence is not so strong. It is not, indeed, in the nature of things that it should be so; we can never have the same approach to certainty that contagion (strictly so called) affords us.† The evidence of infection is not so strong, but it is the prevalent opinion among English authorities that the disease is infectious. There is evidence, (in its tendency to attack all the children of the families it enters,) that an infectious atmosphere is produced by diphtheria, which may be rendered innocuous by constant dilution with fresh air—as it will be in a

*Dr. Harley reported to the Pathological Society of London that he had inoculated three dogs and a snake with diphtheric exudation and mucus taken from the fauces of a woman. A young and healthy dog, an adult healthy dog, and a sickly adult dog were selected for the experiment; and after free scarification of the fauces and pharynx of each, the matter was thoroughly rubbed in, —but no result followed, nor was the snake, who was inoculated in the neck, affected in any way.—*Lancet*, March, 1859.

†With the several opinions held at present by medical men on the true signification of the terms *contagion* and *infection*, I have nothing to do in this paper; but simply assume the respective meanings which I have made use of as those most appropriate to the distinctions of the case in point.

well-ventilated apartment—but which may become intensely infectious if accumulated by a neglect of the renewal of the atmosphere of the room in which the sick are confined. This is an explanation which applies equally well to typhus, typhoid fever, yellow fever, scarlet fever, etc. And since in the present state of medical knowledge, the causes of epidemics are usually mysterious, and their absolute prevention is in many cases beyond our power, no amount of care that we can take for the removal of cutaneous and pulmonary exhalations by providing unfailing currents in the air of the room and house, can be considered trifling. It is not intended to be asserted that the infectious character of all the diseases referred to above is the same; there is doubtless a considerable difference in the degree of infection peculiar to each—thus, it is very slight, or rarely discoverable in typhoid fever in this country; and in typhus, whether in Great Britain or New England, it is much stronger. In diphtheria, it is probably as strong as it is ever found in typhus. In typhoid fever, physicians are in little if any danger of taking it in their attendance; in typhus, when epidemic, the physicians are in great danger of taking it. In 1847, the year of famine and fever in Ireland, it is reported by the medical journals, that every dispensary physician in that country died, of typhus. And in the limited epidemics in Boston and Philadelphia, which arose from importation of it from Great Britain, several physicians in attendance upon patients have fallen victims to it. So with diphtheria, several physicians in France, among whom is Valleix, have become infected with it from patients under their care, and have died. Were diphtheria as widely spread, in the towns where it appears, as typhus frequently is, the peril to which medical men would be subjected by the accumulated poison would be very great, and the mortality would present a nearer approach to that which we have had occasion to mourn in the ravages of typhus and yellow fever. But it has, as already described, a more concentrated form, and while of extreme fatality to isolated households, is a less general scourge.

DURATION AND FATALITY.

The duration of diphtheria in fatal cases is from five to ten days. Death rarely takes place earlier. It may also occur after convalescence has considerably advanced, in four, five, or six weeks from the attack.

The fatality varies much in different places. In some towns the type has been very mild. Thus in North Adams, there were eighty-five cases, and no deaths. In West Stockbridge, eighty-one cases and eight deaths. In Menomonee, Wisconsin, one hundred and thirty-three cases and four deaths. While in Orange, Ct., its onset was very severe, and fourteen of the first fifteen cases were fatal. In reports of epidemics of a severe character, a large number of mild cases are usually included, in which the

peculiar constitutional symptoms of diphtheria were hardly discoverable. Thus in Albany, it was estimated that the cases numbered 2000, of which 188 were fatal—one in 10 2-3; but in these 2000 were included a large number of cases of “a diffusive inflammation of the throat, of a mild form.” While in other places, where the mortality was much greater, the cases were nearly all of a grave character. Of 45 cases treated by Dr. Crighton, of Edinboro’, in 1858-’9, were fatal—one in five. In 1858, the first year in which any cases were seen in Providence, R. I., there were 8 cases, of which 5 were fatal—more than one in two. In 1859, in Pittsfield, there were 6 cases and 3 deaths, one in two. But it would probably be found on examination of a large number of the epidemics which have occurred within the last year in the United States, of many of which we have only flying reports, but have no data from reliable sources, that in many places where there have been so small a number of cases—as in the two towns just referred to—those that occurred were all very serious, so that the rate of mortality was disproportionately high. Strictly speaking, these small collections of cases should not be called “epidemics;” but the term is used here by a pardonable license, in describing even a few contemporaneous cases of a disease which is usually known in epidemic form.

The duration of an epidemic has usually been two or three months at the least, oftener seven or eight, sometimes more than a year. The longest one on record is that at Boulogne, which lasted twenty-six months, from January, 1855, to March, 1857.

DIAGNOSIS.

Diphtheria is only liable to be confounded with tonsillitis, sthenic pharyngitis, croup, and scarlet fever.

Its diagnosis from tonsillitis and pharyngitis rests upon the invariably existence of a false membrane, which has a tendency to extend beyond the limits of the pharynx into its various outlets—while in the two inflammations mentioned, a false membrane is, only seen occasionally, and does not pass beyond the fauces and pharynx; upon the grave and peculiar constitutional symptoms of diphtheria; its chronicity; its tedious convalescence, with the remarkable secondary symptoms with which a certain proportion of the cases are affected; and its fatal tendency; all which are wanting in the other affections.

There is sometimes a degree of difficulty in distinguishing diphtheria from scarlet fever; and several writers have no hesitation in pronouncing the two identical. This opinion is, however, too hastily formed, generally on a personal experience alone, or on a single epidemic. The chief similarity between them is in the constitutional condition in grave cases of each, that condition which may be considered the result of the blood-poisoning.

It will relieve the diagnosis of these two diseases of much of its

difficulty, if we recognise the fact that they may occur together or in succession. Thus, a diphtheritic condition of the throat may follow scarlet fever, or may attend it from the beginning,* and cases occur in which an intense diphtheritic exudation is seen throughout the mouth and throat from the first—cases of scarlet fever, and usually of malignant form and early fatal. For instance, scarlet fever was epidemic in Keene, N. H., in the spring of 1860. Diphtheria was not seen, as a distinct disease, unless five cases in one family of severe faucial inflammation with exudation were of that disease; they all recovered, and without any of the sequelæ of diphtheria. There were 70 or 80 cases of scarlet fever, of which 11 were fatal, 7 being of malignant character, 4 of which terminated in less than thirty-six hours. Two of these malignant cases in one family had the mucous membrane of the mouth and fauces almost entirely covered with a membranous exudation, within twelve hours of the attack. They seemed to be at once attacked with the full force of both diseases, and began to sink in a few hours. It is true that cases of malignant scarlatina, unattended with any diphtheria, are as rapidly fatal as any of these—the shortest of which was about twenty hours in length; but in these cases there was, in my opinion, a combination of the two diseases. Another of these cases was that of a woman, who was violently attacked with vomiting and sore throat, with an abundant diphtheritic exudation; and for three days the case passed for diphtheria of pretty serious character. At the close of the third day, the scarlet eruption appeared on her back. On the fourth, it covered the whole surface abundantly; delirium began, and was gradually exchanged for a partially insensible condition; and on the fifth morning she died, covered with the eruption, which was then purple and mixed with petechiæ.† All of these complicated cases were under the care of Dr. George B. Twitchell.

It is groundless, on the occasional varieties which these affections present, to deny that there is such a disease as diphtheria, distinct from scarlatina. We should with equal reason merge typhoid fever in pneumonia, or pneumonia in typhoid fever, because pneumonia complicates some cases of typhoid, or pure

* I do not refer to the moderate exudation which takes place on the tonsils in many cases of scarlet fever, and which has given to this disease the familiar name of "canker rash." It is found in many cases, yet without the distinctive features of diphtheria.

† While most of the British writers are agreed that they have never, before 1857, seen such a disease as diphtheria, there are some who recollect epidemics of it. Thus Braithwaite says he saw an epidemic of it at Leeds, in Yorkshire, twenty years ago. The probability is that the disease was rather a scarlet fever with diphtheritic complication—a probability made more strong by Braithwaite's opinion of the identity of the two affections: "We have often thought," he says, "that it (diphtheria) was nothing more than a malignant form of scarlet fever, spending its violence on the throat and fauces, instead of the skin."—*Braithwaite's Retrospect*, XXXIX. 26.

pneumonia has at times a typhoidal character. It may be difficult at times to distinguish them, but we have no occasion, on account of similarities in individual cases or epidemics, to rule out a whole species. There is a dangerous tendency to sweeping generalizations of this kind; but it needs only a wider range of observation and a more cautious reasoning, to see that in scarlatina, as it is generally seen, there are none of those symptoms of diphtheria, which are ordinarily as well marked and specific as those of any disease with which we are acquainted.

In order to render the diagnosis as clear as possible, it may be well to array their leading features against each other, and compare them one by one, as in the following manner :

DIPHTHERIA.	SCARLATINA.
Disease of childhood.	Do.
Begins frequently with vomiting.	Do.
Heat usually moderate at outset, and after first day hardly ever abnormally great.	Heat intense from the outset, and does not subside for several days.
No cutaneous eruption.	Scarlet eruption—almost invariable.
Fauces and pharynx red and moderately swollen, at first nearly or quite without pain.	Fauces (only) red and more swollen, with pain.
A part or the whole of the reddened mucous membrane covered with a membranous exudation.	Exudation sometimes present, but less extensively.
Tongue coated white and thickly, and not red after the coat has left it.	Tongue loses its coat early, and its surface has a remarkably glossy redness, with elongated papillæ—characteristic of the disease.
Hæmorrhage from the mucous membranes common in fatal cases, which do not terminate early by laryngeal obstruction (Croup.)	Hæmorrhage very rare, if ever seen.
Convalescence very slow and uncertain—long after throat has recovered.	Convalescence rapid, unless ulceration of throat continues.
Sequela—paralysis.	Sequela—nephritis (Anasarca.)
Death, in three-fourths of the cases, by membranous laryngitis.	Death by membranous laryngitis extremely rare.*
Attacks many who have, at previous times, had scarlatina.	Rarely attacks those who have previously had scarlatina.
No ulceration or sloughing of mucous tissues.	"Disposition to ulceration and slough." — <i>Marshall Hall</i> .

* To indicate the extreme rarity of croup complicating or following scarlatina, Marshall Hall speaks of it as remarkable that "Bateman and Laennec have both seen cases of croup in connection with scarlatina;" and says, "with their observations we may contrast the remarks of M. Bretonneau, who states that, during twenty years he had not observed the affection of the fauces to extend to the larynx."—*Marshall Hall on Theory and Practice of Medicine*.

It is said that diphtheria is scarlatina without the rash, and that in malignant cases of scarlatina it is not uncommon for the rash to be wanting. The latter observation is true. But how are the moderate cases of diphtheria to be disposed of? Why have they no rash, if they are cases of scarlatina? In Albany, of about 2000 cases of diphtheria, not one was known to have a rash. Such an epidemic of *scarlatina* would be unprecedented. It can hardly be supposed, that, were diphtheria simply a variety of scarlatina, the characteristic eruption and the intense fever of that disease would be absent in all—in the mild, as well as in the malignant and early fatal cases.

It is a very strong argument against considering diphtheria a variety of scarlatina, that children are attacked with it who have already had scarlatina months or years previously; while a second attack of scarlatina is extremely rare in medical experience. Willan met with only a single instance of a second attack of scarlatina in 2000 cases, and Bouchut says that he has never met with a well-authenticated case at all. Dr. Ballard, of London, reports forty-eight cases of diphtheria which he had treated, of which twelve had had scarlatina previously at periods varying from six months to five years. Dr. Ballard also gives an interesting case in evidence of the truth of the converse of this, which I will quote. "Just as an attack of true scarlet fever furnishes no protection against an attack of diphtheria, so the following case indicates that diphtheria furnishes no protection against scarlet fever. Three children in a family in my district were attacked with diphtheria in August, 1858. Two of them died; the third, aged three years, recovered. I saw these children, and satisfied myself that there was no error in the diagnosis. In January, 1859, the child that recovered was attacked with scarlet fever, after playing about upon a carpet brought from a house where a fatal case of this disease occurred. There were both the rash and the usual throat affection, but no diphtheritic exudation; and the child died."—(*Med. Times and Gazette*, July, 1859.)

I think we have now sufficient evidence that diphtheria and scarlatina are two distinct diseases. Still, there is, as we have seen, a certain correlation in the general character of the two, which may allow them to exist together in the same individual, either simultaneously or consecutively. And this view will remove some of the difficulty that we now labor under of giving the proper name to the disease described by Fothergill as "putrid sore throat." His paper has been a trial to pathologists, who finally united in considering the epidemic on which he wrote, as one of scarlet fever. But the appearance of this new disease in England has again opened the question, and some gentlemen find in the "putrid sore-throat" of 1739, the prototype of the diphtheria of 1859. Thus Mr. Hutchinson, of London, says, "Any one who reads carefully Dr. Fothergill's 'Account of the Putrid Sore-

throat,' as it prevailed epidemically in his day, will not feel any doubt that he is describing the identical disease which Bretonneau afterwards designated as diphtherite." Most writers still hold to this opinion—at least, nearly all who refer to the epidemic of 1739—but I believe the truth is with Mr. Hutchinson. Dr. Fothergill's paper is a very full and careful description of diphtheria, from which it varies in only two particulars. In most of the cases—not all—"generally on the second day of the disease, the face, neck, breast, and hands, to the finger ends are become of a deep erysipelas color, with a sensible tume-faction." * * * "The redness and eruption have not accompanied this disease so regularly, during the latter part of this winter (1754) as they did in the preceding seasons." (*Fothergill's Works*, pp. 204, 205.) The other particular, unlike diphtheria, was the heat of the skin, which he describes as intense. With these two exceptions of symptoms which we do not find now in diphtheria, his account is remarkably true to that disease.* "Erysipelatous redness" hardly describes the eruption of scarlet fever, but if, as is not improbable, the epidemic was one of diphtheria with which scarlet fever was more or less combined, it is not an unexpected thing that in the combination the eruption should be modified. But I have no desire to lengthen this paper with speculations of so little use as these. The question must remain always an unsettled one, and the only advantage in bringing it up here is to use it as a hint of the confusion that arises between these two affections, in the rare cases when one of them takes on some of the features of the other. In elucidating the history of epidemics, it is desirable to settle the identity of the disease—but for practical purposes, it may be doubted, notwithstanding the care I have taken to make the diagnosis, whether it is of great importance to establish the distinction.

Diphtheria has, with greater show of reason, been confounded with croup, than with scarlet fever. The diagnosis will, however, be easily established. The inflammation known as membranous croup is sporadic, occurring everywhere and at all times, but is so infrequent that it is difficult to say that one place or one year is more liable to it than another. Diphtheria, on the other hand, occurs almost exclusively as an epidemic. Croup has its chief seat below the rima glottidis; diphtheria affects primarily the fauces and pharynx, extending to the larynx only in a minority of the cases, and when it does so, usually a week or more from the

* Dr. Fothergill describes "ulcers and sloughs" in the fauces—but it is well known that the thick and finally putrifying false membrane has frequently been mistaken for sloughs and ulcers, even in a far more exact age than the middle of the eighteenth century. I cannot doubt, therefore, that he was in error there. He says that where the slough was removed by a probe, it was replaced again the next day—and his whole description agrees well with the appearance of the diphtheric throat.

invasion. Croup is of sthenic character; diphtheria is in a marked degree adynamic. In croup, the severity and the peril are dependent upon the mechanical obstacle to respiration—apart from which, it would really be a disease unattended with great constitutional disturbance; in diphtheria, the danger is not always indicated by the character of the local affection. Croup produces death by apnoea; diphtheria is fatal by asthenia—except that where the membrane has extended to the larynx, death results partly or wholly from the apnoea, consequent upon that circumstance. The one is a disease of marked blood-poisoning, attended with much depression, of a lingering character, and with a long convalescence. The other has no depravation of the blood, except such as is caused by the interruption to its arterialization which obstructions in the larynx would produce.

The London Lancet thinks “there are many observers who show an unfortunate facility in adopting the current title (diphtheria,) and who are disposed to extend the nomenclature of this disease—in itself perfectly specific—to all forms of throat affection.” The dangerous habit expressed in this opinion is not imaginary,—and the confounding together affections serious and mild in their nature, has given opportunity to much charlatanry.* I wish, however, to relate a case, and raise an inquiry as to the claim which some epidemics have to the name of diphtheria.

In the small country town of Nelson, N. H., in February, 1860, there was a prevalent sore-throat. I could not learn the number of cases, but Dr. Rand, the physician of the place, informed me, in the few minutes I had to talk with him, that “many of them had canker in the throat,” and that one died. The fatal case was that of a girl of twelve. It was the most severe of all. The exudation upon the fauces was considerable and continual, and followed by what he supposed (probably erroneously) to be sloughing of one tonsil. The disease lasted ten days, and then convalescence began. After ten or twelve days of improvement, everything looking favorable, the physician was called in one morning in haste, and found the child suddenly sinking, and in less than twelve hours she was dead, without any new symptoms—but simply collapse. There had been a discharge from the nose in this case, but no hæmorrhage from any source, nor diarrhoea. The physician informed me—upon inquiry—that there had been no interruption to convalescence in any of the other cases. Two other children of the same family were sick with the sore-throat at the same time.

Notwithstanding the meagre account I have of the epidemic, I venture to think that it was an epidemic of diphtheria, though of an unusually mild character—and this without fear of falling under

* It is, in fact, the systematic knavery, or the gross ignorance in false estimates of the nature of several diseases, like non-membranous croup and some others, by which the pretended disciples of Hahnemann gain their popularity.

the objection made by the *Lancet*. Twenty, thirty, or forty were attacked, in a limited neighborhood, in the course of a few weeks, with a sore-throat of various severity, generally with exudation upon the fauces. In one of a family in which three children were sick with it, the symptoms were more severe, and death came on suddenly, during a regular convalescence, in a manner very unusual, almost unknown except in diphtheria. This case, at least, is diphtheria. Shall the others be excluded, because the malignant symptoms were wanting?

Take another case, already related, and from my own experience. For two months (in 1857) a sore-throat was prevalent in Keene, with exudation on the fauces, and marked debility and slow convalescence. In one case, paralysis of the velum palati for four weeks, beginning after convalescence had continued a fortnight; in another, a strange debility through the whole, with little swelling of the fauces and exudation, with unconquerable vomiting and steady sinking in spite of remedies, and finally death by syncope upon a sudden exertion. With these two exceptions, the epidemic had nothing grave, and nothing remarkable but the chronicity. But these cases occurred at the same time, and in the same village, with the rest. These two were diphtheria. Were not the remainder the same, though mild? Is degree the ground of classification?

Let us examine some analogous cases. In the town of Keene, in the spring of 1859, fifty cases of scarlet fever occurred, of which seven proved fatal in various ways, two being of malignant character, and death occurring in twenty and sixty hours respectively. In the next town, Nelson, of one-fourth the number of inhabitants, there were one hundred cases or more, all of a mild character, and not one fatal, and most of them causing no concern whatever. The latter epidemic is certainly a very rare instance, but does the favorable result make it any less scarlet fever than the other?

Again: In the cholera epidemic of 1832, while it was prevailing in Canada, Albany, New York and Philadelphia, and ten days before the first undoubted case occurred in Boston, one hundred and ninety-six convicts in the Massachusetts State Prison were suddenly and violently attacked, between August 5th and September 7th, with all the symptoms of Asiatic cholera, except cramps in the extremities. There were the profuse vomiting and purging, frequently of "creamy" fluid, coldness, want of circulation, so that in some cases there was no blood obtainable from the arm; and there was that striking relief from blood-letting when blood did flow—the gradual increase, until from drops it came in a full stream, from dark became florid—in fact, everything except cramps and death, to prove it Asiatic cholera. But for the early and energetic treatment of Dr. Walker, wherein the convicts had the advantage of persons at large, to whom the physician is often

summoned too late, there can be no doubt that some of the cases would have been fatal ; for some patients had no pulse at all at the wrist. But no one died. The symptoms of the patients generally, were less severe than in the average of cases of cholera, but were nevertheless severe. It is common to deny to such an epidemic the name of cholera, on the ground that in cholera a certain proportion of fatal cases must occur ; and hence if all recovered, it could not be cholera—a very illogical conclusion. If it was not cholera, what was it ?

So, to cases of exudative inflammation of the fauces, with more than usual debility and chronicity—even if none are fatal—we can give no other name than diphtheria, if they occur in epidemic form. This name is expressive of a distinct affection, and does not indicate its degree of malignity. If of a number of cases occurring together, some are moderate and others are fatal, we do not give them two different names, if there is a similarity in the symptoms, even though some of the fatal symptoms may be wanting in the milder cases. Neither, if all recover, should we have occasion to look about for another name on that account. An *epidemic* of exudative pharyngitis, attended, (as I think it will always be found to be,) with a debility marked and peculiar, even though it be moderate, is properly diphtheria ; and the name should also be given to a sporadic case, if it has all the malignancy of the disease. To justify the diagnosis, we must have either the malignancy or the epidemic character. With these restrictions, I do not believe the name diphtheria will be misapplied.

PROGNOSIS.

The prognosis of diphtheria will be to some extent inferred from all that has gone before. It is more unfavorable with children than adults, probably more so with girls than boys, more with the feeble than the robust, unfavorable with all in proportion to their neglect of sanitary laws. It is most unfavorable, of course, in the malignant cases—when the disease sets in with vomiting and purging, when it begins with convulsions, when a large surface is covered with exudation on the first day, or when the parotid and submaxillary glands are early engorged ; or, according to M. Lemoine, when the exudation attacks the nostrils rapidly. MM. Trousseau and Bretonneau concur in the opinion that the nasal mucous membrane ought to be the object of the most careful attention. Before all these points, there is nothing more unfavorable than the extension of the false membrane to the larynx. At a later period, a typhoidal state, with black tongue, sordes, and hæmorrhage from the mucous membranes, or the supervention of vomiting, are very grave symptoms. Persistent vomiting, even though other serious phenomena are absent, is an unfavorable symptom. Dr. Wade, of Birmingham, England, says that he has made a practice of testing the urine carefully and systematically

in cases of diphtheria, and has found that indications of impairment of the renal functions were constantly precursory of an unfavorable termination.

TREATMENT.

In the plan of treatment which finds general favor, in France, England and America, at the present time, several results are aimed at: to arrest the local affection, to sustain the patient, and eliminate the poison from the system. Nearly all physicians have concurred in the manner in which these several indications are to be answered. Some, however, consider that the disease may be successfully treated by local measures alone; that caustic applications made to the exudation and the inflamed mucous surface at the outset will be the best and all-sufficient treatment; believing that the affection of the throat is the nidus, from which the system at large is affected. Amongst the varieties of diphtheria, we may find some cases that are amenable to topical measures only, and this especially where its onset is gradual. Yet the disease sometimes sets in with sudden violence, with vomiting and purging, or convulsions, or the patient begins early to sink. In such cases, and probably in the very large majority of cases, exclusively local treatment cannot be depended upon.

Local and constitutional measures have been most generally combined, and with a reasonable degree of success.

The local measures consist of the use of caustics for the destruction of the false membrane, or antiseptics which prevent its decomposition; and milder applications of caustic or astringent solutions for the surrounding parts, and the whole surface after the removal of the exudation.

The local treatment of Bretonneau in 1818 was a combination of strong hydrochloric acid with three parts of honey, applied to the exudation. The same combination has been applied by many physicians since that time. The application should be made twice a day to the false membrane until it is removed, and as often as it is renewed—to be omitted when the mucous membrane is exposed. After this, the usual plan is to apply an astringent, such as a solution of tannin or alum. The acid should be applied to the exudation with a camel's-hair pencil.

Another topical treatment, and perhaps the one in most general use, is that of nitrate of silver, which was first recommended for use in this disease by Mr. Mackenzie, of Glasgow, in 1825. It has the advantage of being much more manageable than hydrochloric acid. It is applied in the solid stick or in strong solution. It is the practice of some to make an application of the stick to the exudation, and of a solution to the whole inflamed surface. It is very important, whatever strength be used, that every part of the reddened surface be reached by the solution. It is desirable to destroy, and remove, if possible, the false membrane, and cauter-

ize the surface beneath ; and to repeat the application daily, or twice a day, as long as the disposition to form an exudation continues. Dr. Wells, of Milwaukee, Wis., advises that the false membrane be removed with forceps, and a solution of nitrate of silver subsequently applied. As the exudation begins to diminish, and the surface around it to improve, the strength of the solution should be diminished, and the applications should be less frequent. Some use the stick, more a solution, of the suitable strength of which there seems to be a great range of opinion—few using more than one drachm to the ounce of water, more not more than gr. xxx, and some as little as gr. xv. These weaker solutions may often be sufficient for the general reddened surface—but I doubt if they are of any value upon the exudation or the surface beneath it. I prefer to apply the stick to the exudation, and a solution of 2 dr. to 1 oz. to the surrounding mucous membrane for the early applications, to be omitted or diminished as the disease begins to yield.

A great point in the treatment is to begin it early. The success depends very much upon it. Evanson and Maunsell think that caustics are capable not only of “destroying the false membrane when formed, but of altering the morbid action going on, and so of arresting the progress of the disease,” (before the exudation.) “It is a good and safe rule,” say they, “in practice to wash over the back of the throat with a strong solution of nitrate of silver, the moment the mucous membrane appears affected, when a child sickens during the prevalence of scarlatina, diphtherite, &c. The case is not thus only made manageable, but the evil altogether averted.”

Dr. Ramskill, of London, objects to the indiscriminate use of caustics. He thinks “the cases in which it does act well are those in which there is little swelling or effusion into the surrounding tissues and under the diphtheritic patch, with no marked tendency to glandular engorgement.” He believes that in some cases caustics have produced great enlargement of the glands and aggravation of all the symptoms, and says, “in fact, in all cases where the first application of caustic has shown the tendency to excessive glandular enlargements, the local treatment cannot be too soothing and gentle.” (*Lancet*, Feb. 1859.) It is a suggestion worthy of attention, but which has not, that I am aware of, been confirmed by the observation of others. The only other objection to the use of caustics that I have met with is from Mr. Bristowe, and on purely theoretical grounds.

The remaining applications most in favor are Tincture of the Sequichloride of Iron, Chlorate of Potash, Chloride of Soda, of Lime, and of Sodium, or various combinations of them, as in the Chlorine Mixture, which is composed of Hydrochloric Acid and Chlorate of Potash. Alum, Borax, and Tannin, have also their advocates.

The Tincture of the Sequichloride of Iron is applied in full

strength with the brush. Chlorate of Potassa is used in saturated solution, which is about gr. xviii to the ounce; the Chloride of Soda, in "Labarraque's Solution," diluted to the strength of 1 dr. to two ounces; and the Chloride of Sodium has been used in strong solution, or with vinegar—a form which has long been a popular gargle, in inflammation of the throat. These various medicines are used as gargles—the most uncertain method, and out of the question with young children—or are applied with a camel's-hair pencil, or by means of a syringe.

Mr. Hutchinson, of London, illustrates the value of Chlorate of Potash as a local application, in a case of buccal diphtheria—of which the following is an abstract. A pallid, delicate boy, eight years old, was admitted to the Metropolitan Free Hospital—with his right cheek greatly swollen, tense and hot—lined with a diphtheritic exudation, and with gums inflamed and bleeding at the slightest touch, and very foetid odor to the breath. This condition had existed a fortnight. "It is well known that for the form of stomatitis above described, chlorate of potash in full doses, is almost a specific. Wishing to ascertain whether its virtues are due to its local or its constitutional influence, Mr. Hutchinson ventured to direct that it should be used only topically." It was carefully and thoroughly used as a wash every two hours, and no other treatment employed. At the end of a fortnight, the mouth was well. The boy still looked pale, and steel wine was prescribed.

Mr. Hutchinson very pertinently asks, "Why not try the chlorate as a topical application in cases of pharyngeal and tracheal diphtheria?"

It cannot fail to be noticed that many of the remedies employed in diphtheria are combinations of chlorine. And all the various compounds appear to have been adopted without any preconceived notion of the special applicability of this element to the disease, but by experience with them in a variety of affections, some of which are kindred to it. Thus, the Tr. Ferri Sesquichlor. was adopted for its excellence as a topical application in erysipelas; the chloride of soda and of lime, as useful applications for foul ulcers; the chlorate of potassa, from its successful administration in aphthous stomatitis; and chlorate of sodium with vinegar, from its use in simple tonsillitis. There is same analogy to Mr. Hutchinson's results, in the abortive treatment of small pox by repeated daily ablutions with chlorine water, as described in *Championnière's Journal of Medicine and Surgery*, Art. 5627.

The data for forming an opinion of the value of local treatment are often unreliable, from the imperfect manner of applying the washes to the fauces. This is especially the case when we depend on gargles, or leave applications to be made by a nurse. They should be directed in such a form as to insure their thorough use, if necessarily delegated to nurses. In a case of severe diphtheritic inflammation after scarlet fever in the spring of 1859, it ex-

tended through the fauces, the pharynx, and the posterior nares, with great swelling, and a considerable semipurulent discharge from the nostrils. I made thorough application of Labarraque's Solution, diluted, several times daily, by means of a syringe, throwing a stream through the nostrils, and also through the fauces. It is less painful and less troublesome to a child than the same applications made with sponges, and is far more thorough. The nose and throat are cleansed of pus and mucus, and loose exudation membrane, which are coughed, vomited, or spit up, at the same time that the wash is a curative application to the inflamed surface.

Dr. Lawrence, of North Adams, says, "I relied on the inhalation of steam as a local application, except in two cases, when I used the nitrate of silver. Steam has many advantages over the caustic, as the child does not object to breathing it, and consequently is not disturbed. In one case where the throat as far as could be seen was blanketed with the peculiar membrane, and suffocation seemed imminent, I was gratified to see the whole thrown off entire by the sickness caused by the inhalation of steam. The breathing was at once relieved, and the child recovered." I have no doubt, from experience in the employment of a constant inhalation of steam in membranous croup, of its great value in cases of diphtheria; but whether it can safely supersede the caustic in grave epidemics, remains to be proved. The cases in North Adams were not of the gravest form: in eighty-one cases there was no death, and not one had any form of paralysis as a sequel. Dr. Lawrence's experience is nevertheless very instructive and valuable.

After the adoption of a course of active local treatment, two other indications remain to be answered: to sustain the patient and eliminate the blood-poison.

In the attainment of these objects, there is entire unanimity in the medical profession. The disease is everywhere recognised as one to which antiphlogistic treatment is inapplicable; but a steady tonic and stimulating course, with the most nutritious food, constitutes the usual course of general treatment, and that which will not only best sustain the patient, but restore the normal condition of the blood.

The compounds of chlorine administered internally seem to be as well employed as in topical applications. The chlorate of potassa alone, or in combination with hydrochloric acid (in the "chlorine mixture,") is the most used. It should be given in full doses, frequently repeated—ten grains every four hours for an adult, and a proportional amount for children. But it need not be limited to this quantity, if a larger amount can be administered. Chlorate of potash has an advantage over the tincture of the sesquichloride of iron, as an alkali—in its resolvent effect on the fibrine of the blood, and hence a probability of its diminishing and

arresting the exudation. If, as is probable, it answers this purpose as well as mercurials, it is undoubtedly better that it should be employed in preference to them.

I believe that there is a very general inclination at the present time to treat membranous croup (a sthenic disease) without mercurials. If, then, medical men have arrived at the conclusion that their success is greater in the treatment of that affection without calomel, there appears to be a still stronger objection to employing it in a disease of so low and malignant a type as diphtheria.

It would not be fair to omit the evidence of Conolly in favor of mercurials, who with Bretonneau and Guersent advocated their use, and reported that their employment had been followed by great success. "To insure its success," says Tweedie, on Conolly's authority, "the full mercurial influence is necessary." At the same time, it must be remembered that this testimony was given thirty-five years ago, since when the disease itself has become more adynamic; and that the general recommendations of mercury by these gentlemen must be received with the allowance which should always be made for the admiration of a new remedy; it was a new remedy at first, and reluctantly adopted by the French physicians, on Dr. Conolly's representation.

Evanson and Maunsell, who advise mercurials, do so with a caution against worse effects by dangerous salivation.

So also of its employment at a later stage. I cannot avoid thinking it especially ill-judged to mercurialise a patient—if wise at any stage—at the somewhat advanced period at which the croupal symptoms usually appear in diphtheria, as the peculiar adynamic condition also is approaching, if not already begun, which must be hastened and aggravated by a mercurial course.*

The Sulphate of Quinia is a valuable medicine, and is used by some in preference to Chlorate of Potash. I have not been in the habit of combining them. Mr. Jennings, of Malmesbury, England, prescribes Quin. Sulph., Potass. Chlor. et Acid. Hydrochl., in combination, every four hours. If chlorate of potash has as good an effect, it has one great advantage over quinine—that a child will take it more willingly. Mr. Bottomley, of Croydon, Kent, also recommends quinine, which he added to the chlorine mixture, after the third day, in an epidemic which he treated with great success.

Turpentine is another stimulant that has met with favor. Dr. E. Perrey, of Marden, Kent, advises for a child between two and

* The correct views on the nature and treatment of typhoid fever, which are extending more widely every year, are gradually eradicating the mischievous practice of mercurialization, which has been a part of the established treatment of fever, but even among those physicians who read and think, and entertain better ideas, we find some who do not dare to withhold the calomel when the tongue is getting dry and black. As in fever, so in diphtheria, it is not mercury, but turpentine, quinine, and wine, that the dry, black tongue, (with its typhoidal concomitants,) wants.

six years old, two minims of *Oleum Terebinthinæ* every second hour, and five grains of *Ammoniæ Carbonas* every second hour—the child taking the turpentine one hour and the ammonia the next—especially in cases where the larynx has become involved. He says, “I was induced to try the turpentine from having noted its effects when given as advised by Dr. Carmichael in cases of iritis in broken-down constitutions, where mercury could not be used; and where there is so great a tendency to the effusion of lymph in the chambers of the eye. We all know, too, how effectual it is in other diseases, acting like mercury in many respects—but stimulating instead of debilitating—and hence its appropriateness in diphtheria, where mercury, I believe, hastens the fatal result.” He makes no caustic or other application to the fauces—but sustains the patient with wine, porter, and beef tea.

Besides quinine, chlorine, or turpentine, diphtheria requires alcoholic stimulants. The flagging powers of life need frequently repeated excitants, to sustain them against the steadily depressing influence of the disease. As soon as the febrile action has subsided—which is usually present during the first day, but hardly ever continues beyond the third—some form of alcoholic stimulant may be safely and usefully administered. It is better to begin it then, than to wait for symptoms of collapse. The absence of heat, the weakness of the pulse, and the tolerance of the first carefully administered drams, will be sufficient indication of its necessity. But we might without hesitation say that the presence of the disease is alone a sufficient indication. The only guide to the amount is its effect in each case; there is usually very great tolerance of wine, brandy, or whatever form can be most easily administered. There is only one writer—Mr. Jennings, already quoted—who has any doubt of the usefulness and necessity of alcoholic stimulation in all cases in which there is any depression. This gentleman, who claims great success in his cases, which have been treated very actively, advises “quinine in large doses, and the avoidance or guarded use of alcoholic stimulants.”

There is no specific for diphtheria, and the advantages of the various agents which have been described are not claimed as such. Several of them have been almost universally employed, and with favorable effect in proportion to the curability of the cases. But it is not to be denied that many of the cases might have done equally well on other remedies than those which were used, so that the general plan of treatment was preserved. It is possible that quinine may in many cases take the place of alcohol; but certainly the most malignant cases require a very free use of wine or rum. In different places we find a sufficient variation in the disease to make it probable that the indications are not always the same; it is doubtless attended with less depression in some places than others. Therefore any individual opinion like this of Mr. Jennings must be received with allowance. Most writers express

very strongly the same opinions that I have advanced. Thus, Dr. Perrey, already quoted, says, "besides the medicinal treatment, the child takes port-wine, porter, and beef-tea, or wine with the yolk of an egg, *ad libitum*." Mr. Cammack, of Boston, England, "A little mutton, every day; boiled milk, rich gruels, and beef-tea, with hot port-wine and water, for all above ten years; and warm milk and water for minors. All things should be taken warm." Mr. Bottomley, "The diet consists of concentrated jellies, strong beef-tea, wine, etc." Mr. C. S. Smith, "the diet to consist of strong beef-tea, port-wine, and, in short, all the nourishment the patient can take." Mr. Thos. H. Smith says, in the *British Med. Journal*, "I need not dwell upon the necessity of wine, beef-tea, &c. In the severe cases they are most urgently required, and must be liberally supplied. In the more trifling cases, if well-marked, convalescence will be delayed, and danger of relapse continue, if these, or their equivalents, are not employed." Mr. McDonald, of Bristol, says, "After a clearance of the bowels with calomel and rhubarb, I order strong beef-tea, wine, and above all, Bass's pale ale; the patients express themselves much relieved in the throat as it is swallowed, and feel greatly exhilarated after taking it. One gentleman drank twelve pint bottles of it in the course of a night." Dr. R. W. Crichton, of Scotland, says, "I had not treated many cases before I found the necessity of resorting (in most cases from the very commencement) to stimulants, and the most strongly nutritive diet, as brandy and beef tea; and these, in general, could not be withdrawn until an advanced period of the convalescence." (*Edinboro' Med. Journal*, Feb. 1860.)

When solid food can no longer be taken, beef juice, prepared according to Liebig's formula, furnishes the most concentrated nutriment that is available—to which may be added whey or strong porridge for variety. Difficult deglutition very frequently makes it impossible to take the necessary amount of nourishment. In this case we should, without delay, resort to its administration by the rectum. It is very common to make use of nutritive enemata only in *extremis*; but they are given with so great ease and no inconvenience, and supply so well the wants of the system, that there is no need of waiting a single hour after the sufficient amount cannot be taken by the mouth. I have found that two or three ounces of beef juice can be retained and absorbed by a child every five or six hours; and a smaller quantity will be enough for a very young child. One ounce every four hours—six ounces a day—(equivalent to the juice of two pounds of beef,) will usually be sufficient for a child of three years of age, in addition to the alcohol it takes. And, if necessary, alcohol diluted can be given by the rectum as well as the beef juice. It is well to add a few drops of laudanum to the enema—but after two or three enemata, they will generally be retained without it.

Blisters are objectionable, on account of their liability to become affected with diphtheric exudation. And, even without this danger, there is no evidence of their giving any relief.

Dr. Bostwick, of Red Rock, N. Y., excises a portion of the uvula, which he finds very long and œdematous, and has found the operation check the local affection very materially.

Excision of the surface of the tonsils has been advised, but I am unable to say with what success it has been practised; if such treatment were capable of removing the disease, it would furnish the best evidence that it originates locally, as some suppose.

Tracheotomy has been performed in cases where croupal symptoms arose, and has been successful in several, but in an extremely small number of instances. The constitutional disease which underlies the laryngeal affection, places it of course in a very different category from croup, and renders a fatal termination almost inevitable. Dr. Seymour, of Troy, says in a private letter, "the few cases I have seen (of the croupal form) impressed me with the idea of far less physical obstruction than exists in a case of inflammatory croup; for though the voice might be very much smothered and husky, and æration interfered with, there was not that sibilant or shrill sound to the voice, and it would be at times quite loud and distinct, though the forced respirations in crying are at the same time husky. The effect of the difference, in my judgment, was to this opinion—that tracheotomy was not indicated nor could be of the same service as in the inflammatory croup. The parts seemed more poisoned than plugged." The false membrane is not found after death in these cases so thick as in membranous croup; forming in the larynx usually at a late period, therefore of fewer laminæ and less consistence than on the fauces; and consequently the calibre of the larynx is less diminished than in croup. Yet in the enfeebled condition of the patient, we can easily believe that no obstruction to respiration can be safely borne; hence it does not surprise us that cases in which the croupal symptoms are present, are almost invariably fatal.

Besides the constitutional state, it is another objection to tracheotomy that the false membrane frequently extends through the trachea and a considerable portion of the bronchi, rendering the operation fruitless; a condition that exists in membranous croup indeed, but less often, I believe. Dr. Bontecou, of Troy, operated on a child, who lived five days afterwards. At the *post-mortem* examination "the exudation was found extending down into the bronchial ramifications of one lung, which was hepatized."

To express in a word the present state of the question of tracheotomy, Trousseau now makes it one of several conditions of operating in membranous laryngitis, that the disease shall not be diphtheric. (*Championnière's Journal*, 1859.) In diphtheria, the operation is almost invariably followed by death; while in membranous croup, Trousseau states that of late years, since he had

adopted the plan of operating before the circulation is seriously embarrassed, half his cases of tracheotomy in private practice have recovered.

The local applications, the tonics and the stimulants, important as they are, are fully equalled in necessity by measures for free ventilation and cleanliness. There can be no doubt that not only is the disease rendered more infectious by the neglect of these precautions, but the severity of the cases already under treatment is very much increased. There is in the medical profession generally, about the same amount of belief in the value of free ventilation and cleanliness that will be found in the best informed half of the community—a theoretical, not a practical belief in the standard sanitary doctrines. For I believe it will be admitted that very few, even medical men, look upon these means as anything more than *juvantia*: their directions for the ventilation of sick rooms are seldom given with any approach to the exactness and sense of their importance, which are employed in prescribing medicines or diet. The history of diphtheria makes it clearer than day that no cause is more effective in spreading it and making it virulent, than crowding and foul air. Segregation of the sick, and the most thorough and unintermitting change of the air of the room and house, are absolutely indispensable.

The directions of Nathan Smith for the hygienic treatment of typhoid fever, are applicable to diphtheria. An open chimney with a fire in it, is the first indispensable. The bed must be so arranged that the air from out-of-doors shall blow over and around it all the time.* Nurses require to be repeatedly assured that the patients will not “get cold” in bed, if sufficiently clothed, and the attendants must protect themselves. And the more bare the room is of furniture, especially of drapery or any kind of stuffs, the fewer media of infection there will be. The bed-clothes must be changed daily, and thoroughly aired, morning and night, while the patient is removed to another bed.† At the same time the danger of fatal

* Florence Nightingale’s little book on Nursing, to which her great name has given the currency it deserves, as perhaps the most thorough and earnest book of the kind that ever was written, is full of good doctrine, and delivered with a directness of personal appeal, that scientific conventionality often forbids medical men to use. It is a book not merely for the people, but a true guide to professional men, sound in hygienic teaching, and especially applicable to such diseases as the one now under consideration. If some of her views on the spontaneous origin of zymotic diseases are not sound, they are not dangerous, but quite the reverse. No man need be ashamed to strengthen his hands by her authority; and no one who has earnestly striven all his life to impress upon those who come under his influence the superlative value of hygienic agencies in the prevention and treatment of diseases, and especially in the staying of pestilences, can fail to welcome her powerful aid to his cause.

† The most successful treatment on record of any zymotic disease of a serious character is purely hygienic. It is the case of eighty-two people sick with typhus of a grave character—twelve of them already insensible—who

syncope should not be forgotten at the advanced stage of diphtheria, and the erect position should be studiously avoided. And, lastly, thorough daily ablution of the whole body is imperatively necessary.

Diphtheria cannot be considered a disease whose treatment is uncertain, or still merely matter of experiment. We are justified, by all experience, in holding certain clear views of the manner of meeting its indications. It is no condemnation of the method usually pursued, that it is fatal in so large a number of cases. As in typhus, typhoid, scarlet, and congestive fevers, a varying proportion of cases will occur in every epidemic of so virulent and malignant a nature that medical treatment is entirely unavailing. The best methods, applied even at the outset, have no effect in saving life or mitigating the severity of the symptoms. Then, casting out such cases, there are many others which are fatal from being neglected until the disease is so far advanced that the opportunity for medical appliances has passed. Diphtheria is clearly not a self-limited disease; and in order to make treatment effectual, it must be begun at an early period. And, as it is evident that from ignorance or neglect on the part of patients and their friends, many are not seen by a physician till the disease has continued for several days, it is proper, in judging of the value of the medical treatment, that all such cases should be left out of consideration. Such a condition applies equally, of course, to all varieties of medical treatment. But in the case of the disease we are now examining, it has already been observed that in the essentials there is little variety in the methods which have been adopted for its treatment; and therefore the question is not at present one of comparison between this treatment and any other. It is only a question whether, when one patient in ten, eight or five, dies under a certain mode of treatment, that treatment can be judicious. I repeat, that, to judge it fairly, we must diminish the number of fatal cases, by a few exceedingly malignant and many that doubtless remained without treatment until the stage had passed in which any impression could be made on the disease.

were landed in 1837 on the New Jersey shore, from a wreck, and laid in canvas shanties, exposed to the weather, and drenched with rain, but not otherwise treated, except with cordials—and all recovered. No hospital records can show such a result. (*Sickness and Mortality on Emigrant Ships. Cong. Report.*) It is not to be supposed that a similar course would deprive an epidemic of diphtheria of all its malignancy—but to what extent it would diminish it we can never know till a much more thorough hygiene than is common has been fairly tried.

PROCEEDINGS OF SOCIETIES.

BERKSHIRE DISTRICT MEDICAL SOCIETY. — The Society held its December meeting in Pittsfield, at the Chemical Hall of the Medical College, on Wednesday, the 19th. Dr. T. CHILDS, Vice President, in the chair. Thirteen members present.

Dr. Cady reported a sudden and fatal case of peritonitis, treated with opium in large doses. The autopsy revealed thickening, and perforation of the gall bladder; a sharply defined opening into the peritoneal cavity, which was filled with bile, and purulent matter. Intestines agglutinated, and traces of the patient's former attacks of peritonitis in old, and firm adhesions.

Dr. De Wolf related a fatal case of peritonitis in a parturient female—death five days after delivery. The autopsy showed the rupture of an hepatic abscess into the peritoneal cavity.

Dr. Brewster related a case of breech presentation, in which his attempts to reduce the prolapsed cord were unavailing. The duration of the second stage was about an hour. Suspended respiration speedily restored.

Dr. Miller alluded to the necessity of keeping up the heat of the body during suspended respiration.

Dr. H. H. Childs has often kept up artificial respiration, in the new born, for over a half hour, and ultimately restored life.

Dr. Holmes reported the case of a female, six months pregnant, who, on sudden fright, was seized with labor pains, the membranes apparently ruptured, and the waters escaped abundantly. The labor, however, did not progress, and finally all its symptoms ceased.

A difference of opinion having arisen on the question of the possibility of labor being arrested after the escape of the true Liquor Amnii, the question was referred to a committee, consisting of Drs. Brewster and Stiles, with instructions to report at the next meeting.

Dr. Salmon reported attending the birth of an anencephalous foetus. Quickening had been felt shortly before labor.

Drs. Miller and Holmes reported a cure of diabetes in a man seventy-two years of age, by the use of sweet cider, after the disease had lasted three years.

Dr. T. Childs brought additional testimony to the cure of true Diabetes Melitus, by the use of cider.

Dr. Holcombe had used the hydrosulphuret of ammonia, as proposed by Cruickshank.

Dr. Stiles spoke of having witnessed the experiments of *Claude Bernard*, and the production of a persistent diabetes in the lower animals, by irritating the medulla oblongata—*Bernard's* plan was to puncture the occipito-atloid membrane, and allow a globule of metallic mercury to fall on the floor of the fourth ventricle, the mercury acting by its presence as an irritant, produced a persistent diabetes.

The treatment of diabetes by a seton in the neck, and the internal use of alkaline waters, was discussed.

Dr. Holcombe mentioned cases of Polyuria occurring after apparent suppression of the urinary secretion.

The now prevalent epidemic of diphtheria, was discussed. *Drs. Lucas and De Wolf* had witnessed cases of a disease commencing with sore-throat, terminating in violent erysipelas of the face, sloughing of the eye-lids, and death.

Dr. Lucas presented a specimen of atheromatous degeneration of the aorta, taken from a laborer who had died suddenly while at his work. Specimen presented to the College museum.

The Society then adjourned to the residence of *Dr. Cady*, to partake of a bountiful entertainment.

The details of several cases reported, will appear in our next number.

SELECTIONS FROM AMERICAN AND FOREIGN JOURNALS.

INVERSION OF THE UTERUS.—In the *American Journal of the Medical Sciences* for October, *Dr. Charles A. Lee* has published a statistical inquiry into the causes, symptoms, pathology and treatment of inversion of the womb, based upon one hundred and forty-eight recorded cases, taken from many authorities. Inversion of the womb is so rare, that, says *Dr. Lee*, "the annals of the Dublin Lying-in Hospital, and those of the London Maternity Charity together, do not show a single instance of the accident in a total of more than 140,000 labors." "But however rare, it may happen to the most experienced obstetrician, as it did actually occur in the practice of the late *Prof. Dewees*."

The following is a summary of the principal points deduced by the inquiry :

Causes.—The most frequent causes alleged, are, pulling on the cord, and other attempts to deliver the placenta. The placenta was stated to be adherent in sixty-seven of the one hundred and forty-eight cases, and may have been so in many more which were imperfectly reported. It is asserted that the inversion was spontaneous in twenty-three of the cases; but *Dr. Lee* very properly doubts the occurrence of a purely spontaneous inversion, though he supposes that where a slight depression of the fundus has begun from traction of the cord, complete inversion may be produced by the uterine contraction.

Placenta adherent.—There are 62 out of 142 cases, in which it is stated that the placenta was adherent; and it is but fair to infer that such was the case in many of the others. This has a most important bearing on the causation of the accident, and sustains the conclusions already arrived at, regarding the influence of traction on the chord, or attempts at removing the after-birth.

Hæmorrhage.—Severe and copious hæmorrhage occurred in 49 out of 102 cases; moderate in 17 cases; no hæmorrhage in 11 cases.

Inverted Uterus mistaken for Polypus in 7 cases. In one of these cases Velpeau was the surgeon, and ligated it.

Polypus mistaken for inverted Uterus in 2 cases. In one, the mistake was made by Dr. Hugh Ley, and the diagnosis concurred in by Sir Charles Bell; in the second the mistake was made by Dr. Rigley.

Uterus replaced in 51 out of 148 cases. Death followed in 7 of the 51 cases—in two from peritoneal inflammation, and in the rest from hæmorrhage and exhaustion. The replacement was in most cases made within an hour after the inversion, but in several cases was made six months, in one seven years, in one twelve years, and in one fifteen years afterwards.

Spontaneous reduction is reported in three cases.

Placenta was separated before reposition in 31 cases. Not separated in 10 cases.

Inverted Uterus removed by ligature in 32 cases, of which only 4 died.

Removed by excision in 14 cases, of which 4 died. Dr. Lee also makes some remarks on the possibility of inversion of the uterus beginning by the cervix first passing through the os, and drawing the fundus after it. This is a hypothesis made by Dr. Delamater in his late deposition in the case of Dr. Alexander Fisher, of Chicago. But Dr. Lee denies on the anatomical formation of the uterus that there is any ground for such a supposition, while at the same time there is no evidence that inversion has ever occurred in this manner.

2. CÆSAREAN SECTION.—Prof. B. F. Barker recently performed the Cæsarean operation at Bellevue Hospital, on account of a contracted pelvis, the antero-posterior diameter of the superior strait being only two inches, the cavity of the sacrum filled with a bony tumor. The child weighed nine pounds, and is still living. The mother died on the fifth day after the operation. (*American Medical Monthly*, December.) The Cæsarean section has also been performed twice within the last year, by Mr. Lorthioir, of Lalaing, France; in each case with success. The mothers are living and well. The result to the children is not stated. (*Championnière's Journal*.)

3. METHOD OF SHORTENING SOME TEDIOUS LABORS.—M. de Laffore read to the French Academy of Medicine, a memoir on tedious natural parturition, and an innocuous mode of shortening the duration of labor. The author seeks to demonstrate that one of the chief obstacles to parturition is the resistance which the symphysis presents to the passage of the foetus. Hence, for the purpose of accelerating labor, it would suffice, in most cases, to apply the forefinger upon the anterior part of the cervix, so as to keep the presenting part from coming into contact with the symphysis.

British obstetricians have as long ago as 1837 observed this same difficulty during labor. Drs. Hamilton, Burns and Brien have advised that the anterior lip, which is often constricted and swollen between the head and the symphysis,

should be pushed up by the finger in the interval of the pains, and there maintained until the returning contraction of the uterus drives the head below it. Drs. Collins and Murphy object to the practice, as likely to produce inflammation of the cervix. Dr. Murphy recommends instead the pressure upon the head which has since been described by Dr. de Laffore. (*Championnière's Journal*, October and November.)

4. TINCTURE OF BENZOIN FOR CHAPPED NIPPLE.—Some years ago, Mr. Bourdel extolled the virtues of tincture of benzoin for the cure of excoriated or chapped nipple. The remedy was applied with a camel's-hair pencil, immediately after suckling the child, or oftener, if necessary, and in such a manner as to cover the sore parts with a uniform layer of the liquid.

I have also, says Mr. Moulas, of Douai, since 1854 had recourse to the method recommended by Mr. Bourdel, and have found the tincture of benzoin constantly successful in the cases alluded to. This remedy is particularly valuable, as in the first place the child takes the breast without repugnance; in the second, the tincture leaves, on evaporating, a layer of benzoin on the surface of the nipple, thus affording to the sores protection from contact with the air or with the dress; and lastly the nurse can give the breast without previously washing the nipple, an operation which induces much pain. (*Championnière's Journal*.)

5. DIGITALIS IN HEART-DISEASE.—Dr. Germain thus resumes an able monograph on the action of Digitalis :

I. Notwithstanding the opinion of Sanders, which, moreover, is in contradiction with all observations before and after him, Digitalis lessens the frequency of the heart contractions.

II. Nothing proves that it weakens the force of the heart's contractions; while theory, and physiological experiments, and my own experience, prove that one of its secondary effects in narrowing of the heart's orifices, is to augment it—consequently there is no danger in giving it in cases where the heart's energy appears diminished.

III. The frequency of the heart's contractions in the case of narrowing of the orifices of the heart, preventing the organ from returning to a normal activity, and keeping up the disorder of the circulation, and digitalis having the power of diminishing the frequency of the contractions, it is not necessary to invoke another mode of action to explain the amelioration which follows, in this case, the administration of this plant.

IV. Nothing is found in the writings of authors to prove that Digitalis enjoys diuretic properties, that this reputation given it by Withering appears to have been accepted without discussion by all those who followed him.

V. It is true that in the organic affections of the heart where the employment of Digitalis produces an amelioration of the circulation it often produces abundant diuresis, but this diuresis is but a secondary effect, from the return of the circulation to its normal state.

VI. All authors are unanimous in recognizing the powerful action of Digitalis on the stomach. In very small doses it stimulates the appetite, but in the doses in which it acts upon the heart, it produces anorexia, even nausea; and may become a dangerous cause of dyspepsia in the greater number of cases. (*Gazette Hebdomadaire*, November.)

6. **THORACENTESIS.**—As we progress in the practical study of thoracentesis, we are more and more powerfully impressed with its innocuousness and the facility of its performance. We are now aware that it may prove beneficial even in the case of pleurisy consequent upon tuberculosis. Mr. Aran's general practice is to tap the chest, whenever the effusion is copious or increases with rapidity. In the latter case, he marks upon the skin with nitrate of silver the limits occupied by the morbid secretion, and watches its subsequent progress. If he finds after two or three days that its advance has been considerable, he unhesitatingly taps the chest, even when it is not entirely filled by the liquid, because further temporization might expose the patient to sudden suffocation. Again, when the effusion, even moderate in quantity, does not yield to diuretics and repeated blistering, Mr. Aran has recourse to the same method. When the usual treatment has been unavailingly persevered in for eight days or a fortnight, he performs thoracentesis, and a cure is effected with surprising rapidity. Thus the three indications for thoracentesis are: Considerable effusion; rapidly increasing effusion; obstinate effusion, whatever its amount.

Mr. Aran, moreover, cares little about the nature of the morbid secretion. Of course he would be glad to ascertain if it is or is not puriform, but, unable to acquire this knowledge, he takes the most favorable view of the circumstances, irrespectively of the complication, because the wisest conduct to be adopted is to remove a cause of inflammation and thus simplify matters.

One complication, however, gangrene of the lung, appears to Mr. Aran formally to forbid tapping the chest. It is not indispensable to select the most dependent part of the pleura for the puncture. The thoracic cavity is not an inert vase; the liquid escapes with equal ease, whether the artificial aperture be high or low. The rule to be observed is to puncture the chest in that part in which the lung is most distant from the parietes. (*Championniere's Journal.*)

7. **OXALATE OF CERIUM IN VOMITING.**—This article was introduced into medical use, by Dr. Simpson, of Edinboro', about a year ago, to check the vomiting of pregnancy. But more recently it has proved useful in so much wider a field, that it promises to assume a permanent place among the mineral tonics. * * * * When I began to use it, I limited it to cases of advanced pregnancy, which had resisted all the ordinary remedies, such as creasote, hydrocyanic acid, ice, bismuth, &c. I specify *advanced* pregnancy, for in no case have I seen this troublesome symptom appear before the fourth month, without yielding to creasote, or prussic acid, or better still, minute doses of sulphuric acid and brandy. * * * But, as I have remarked, the efficacy of oxalate of cerium appears by no means confined to the relief of vomiting in pregnant women. In the vomiting that often accompanies phthisis, in pyrosis, hysterical emesis, and the various dyspeptic conditions of the stomach, especially in atonic dyspepsia, I have found the effects of this remedy no less encouraging. (*Dr. Charles Lee, in the American Journal of Medical Sciences, October, 1860.*)

8. **OUT-DOOR LIFE FOR PHTHISIS.**—Dr. Blake, of Sacramento, Cal., speaking of the advantages of the climate of California to consumptives, attributes much to the out-door life which it enables this class to lead, without exposure; and mentions the fact that Indian children domesticated, die in large numbers of phthisis. (*Am. Med. Times, Nov. 10.*)

CORRESPONDENCE.

PARIS, FRANCE, November 24, 1860.

Messrs. Editors :—

An interesting paper has been presented to the Academy of Sciences of Paris, at their sitting, Nov. 12th, by Dr. Thiercelin, on the employment of curare or woorali in the treatment of nervous convulsions, particularly epilepsy.

Guided by the beautiful experiment of M. Cl. Bernard, who has shown that curare *ought to be* the antagonistic of morbid convulsive phenomena, and encouraged by the treatment of several cases of tetanus, reported some time since, he was induced to make use of this substance. After some experiments to discover approximately the *minima* toxic doses, and consequently the *maxima* therapeutic doses, M. Thiercelin has treated two epileptics in which the different medications employed had produced no amelioration.

A young man of twenty-three years, affected with congenital hereditary epilepsy, had passed four years in the hospital at Charenton. Considered as incurable, he had ceased to receive medical care for two years. His paroxysms varied between fifteen and twenty per month. The second, a young woman of seventeen years—epileptic for eight years past. During the first year the access was simple vertigo, more or less, but from that time they were characterized by violent convulsions, guttural rales, frothing at the mouth, &c. Their number varied from twenty-five to twenty-nine per month. Under the influence of curare, administered in doses of from three to five centigrammes a day, (one-half to one grain) upon a blistered surface in full suppuration, the paroxysms diminished in two months (December and January last) in such a manner that in the first case he counted five instead of fifteen or twenty, and in the second, eight instead of twenty-nine, during the last month, (January.)

The gravity of the convulsion was amended also in a very notable manner, and the general condition of the patient very sensibly amended.

I ought to say, adds M. Thiercelin, "that while I employed the curare, I did not cease to make use of other medicinal and general means which the case required, as valerian, nutritious, and easily digested food," &c.

"This amelioration was giving me much reason to hope, when, unfortunately, at the end of the second month, the supply of curare was exhausted; the paroxysms returned rapidly in both cases, and with almost their former frequency (i. e.) during the month of February, fifteen in the first case and twenty-four in the second." It was almost a month before another package of curare could be obtained, and M. Thiercelin re-commenced its administration in the case of the young woman only, for the supply was not sufficient to put them both under treatment. In the space of ten days the patient received on a vesicatoire of the arm fifty centigrammes (ten grains)—five centigrammes (one grain) per day, and at a single dose. During these ten days, three attacks only, occurring in the night and with slight convulsions. Improvement manifest.

The eleventh day the medicine was exhausted, and the patient suffered three attacks during the following night. The twelfth day M. Thiercelin sent to the parents one gramme (twenty grains) of the medicine, divided into *fourteen powders*, and to be administered in fourteen days. Each powder to suffice for three dressings of the blister.

Sunday, the eleventh of November, the twelfth package had been employed, and during the time she had suffered but two nocturnal accesses, and of little intensity.

M. Thiercelin exposes his reasons for administering the curare in the doses indicated, and why he had given the preference to the powder, rather than the aqueous solution, or alcoholic tincture. "We know," he continues, "that curare is a dry extract, breaking with a reddish brown fracture; but we yet ask what plant furnishes it. Does it contain only vegetable juices? That which is called *curarine* does not crystalize, and cannot be considered at present as a definite product, a composition determined and always identical. Does water or alcohol extract all its active portions? It is denied, and until chemistry and botany shall throw some light upon this complex question, it is wisest to employ the substance as it comes to us. From this uncertainty arises the obligation to examine each new package of curare, to try it, and measure its power."

As to the manner of determining its toxic qualities, it consists in experimenting with animals. He continues. "I have always made use of dogs, whose weight I have accurately determined, and which I have kept fasting for the same number of hours. I inoculate the curare, finely pulverized and mixed with a little sugar, in the sub-cutaneous tissue of the thigh or back. After a series of experiments, I have concluded that a dog of six kilogrammes (twelve pounds) is killed in the space of twenty to twenty-five minutes, by five centigrammes (one grain) of curare well pulverized. With three centigrammes I have noticed only a disposition to stagger, and fall over sometimes, which is passed in twenty or thirty minutes."

"Dividing one grain by twelve pounds, gives us one-twelfth gr. of curare to one pound of dog killed, and if we admit that the action is in proportion to the mass, we can kill an animal of one hundred and twenty pounds with ten grains of the poison. But this direct relation may not exist, and we should diminish the *relative* dose as the weight of the animal is increased. Without fixed rules to follow, we can admit that there will be danger to administer to an animal of one hundred and twenty pounds, a dose of eight grains, and that we should consider this as the extreme."

A commission composed of M. M. Flourens, Velpeau, Cl. Bernard and J. Cloquet, were appointed to examine the report of which I have given you the essential part.

If the results have not completely satisfied the hopes of M. Thiercelin, they have at least shown enough to encourage the continuation of experiments which the gravity of the disease justifies, and for this reason I have been particular to designate his method of testing his remedy.

The following case, now under treatment at the clinique of the faculty of medicine, is interesting from the embarrassing circumstances connected with the diagnosis, and the happy issue of the case thus far:

A young man aged nineteen, laborer, in robust health, with oblique inguinal hernia of right side for eight years; reducible. On the morning of the 18th (Nov.) made a severe effort lifting; worked during the day; at evening found the tumor a little painful, and could not reduce it as usual; passed a restless night, and in the morning (19th) consulted a Bandagist, who returned the hernia and applied a bandage. No relief during the day, and on the evening of 20th entered the hospital. At the morning visit (21st) M. Nelaton observed the following condition of the patient: Pulse ninety-eight; abdomen slightly distended; patient complained of a diffused pain extending from pelvic region of right side to umbilicus; inguinal canal abnormally large; the index fingers passing through the external ring and traversing the canal, pushing the inverted scrotum before it. An interruption from the commencement to the passage of feces; frequent vomiting. Hernia reduced "*in a mass*," and intestines yet constricted within the abdomen by the sack, or by an inflammatory effusion was the uncertain diagnosis, and from the gravity of the operation necessary for relief, determined to administer a stimulating cathartic and wait twelve hours.

R. Ol. Cro. Tig. gtt ii.

Four o'clock, P. M. Tension of abdomen increased; the cathartic had provoked severe intestinal action; patient complained of severe pain in abdomen; vomiting more frequent; no stool. Section of abdomen; patient under the influence of chloroform. Deep in the right iliac fossa found a small knuckle of ileum constricted by the neck of the sack. The intestines presented the dark violet color which characterizes it when ligated, and the neighboring peritoneum covered with patches of lymph. At this moment, eighty hours since the operation, the patient is comfortable, and the peritonitis not fatally severe.

Yours,

OSCAR C. DEWOLF.

EDITORIAL.

WITH this first number of the **BERKSHIRE MEDICAL JOURNAL**, we come before our professional brethren of the United States, asking their support.

The Journal is undertaken in the belief that there are valuable scientific resources in New England and the North still undeveloped, and with the hope that it may become the mouth-piece of many intelligent observers and local societies in different parts of the country. There is but one medical periodical now published in New England, the *Boston Medical and Surgical Journal*; and ample room remains for another, and especially a monthly Journal.

The general plan of the Journal will not differ materially from that of our best periodicals. Local medical history will occupy the first place, while our readers will also be provided with as comprehensive a view as possible of all branches of medical science from all parts of our country, and from European sources also.

We invite all, and especially gentlemen of Berkshire, to report to us, from time to time, an account of the epidemics which may come under their imme-

diate notice; looking upon this as the most valuable portion of medical history which can be furnished to our readers.

We shall publish also records of important and interesting medical cases, analyses of cases and statistical reports, original researches in animal chemistry and physiology, and medico-legal investigations. In fine, we shall receive worthy papers on any subject connected with medicine, from gentlemen in any part of the country who will favor us with their contributions.

The monthly proceedings of the Berkshire District Medical Society will be regularly published; and it is expected that some other New England societies will make this Journal the vehicle of their reports.

A portion of each number will be set apart for the freshest and most valuable articles from the American and European medical press.

It will be our endeavor to advance true science, and to advocate thorough education, honest practice, and honorable professional intercourse. And with these plain statements of their intentions, the Editors lay the Journal before the medical profession.

MEDICAL NEWS.

Diphtheria.—Within the last month diphtheria has appeared in Pittsfield. The number of cases of true diphtheria is quite small in proportion to the population, but exaggerated by the fears of the community. Every case of sore-throat arouses suspicions in the mind of the physician, which are translated into realities by current report. The American Medical Times of Dec. 1st, says: "Diphtheria is prevailing very fatally in Madison County, N. Y., particularly in the towns of Hamilton, Lebanon and DeRuyter. The same malady is also prevailing to some extent in Saratoga County. Sporadic cases continue to appear in New York, Brooklyn, Jersey City, and their suburbs."

Cholera.—The cholera, which has long hovered over Spain, and from which Malaga has been free but a fortnight, has passed the frontier and reached Gibraltar.

Deaths from the Inflammability of Clothing.—The Lancet says: "The total number of persons who died in the United Kingdom from burns and scalds during the year 1858, was 3125. Of these, no small proportion met with their deaths by their clothes catching fire. At the desire of the Queen, investigations have been made into the best methods of rendering light articles of clothing non-inflammable. Messrs. Versmann and Oppenheim state that the two solutions most effectual for this purpose are tungstate of soda and sulphate of ammonia, the former being preferable for woven fabrics. The solution must be made with warm water, and should be well stirred. A sheet of linen is then soaked in it and dried. The articles of dress, after being well starched, blued, and rough-dried, are saturated in the solution, then rolled in the above piece of linen, and ironed as usual.

Poisoning by Stramonium Seeds.—At a recent meeting of the Scott County Medical Society, at Davenport, Iowa, Dr. Parry offered resolutions declaring stramonium weed a nuisance, and requesting the city council to take measures for its extirpation. The American Medical Times says that cases of poisoning

by stramonium seeds are sufficiently frequent in this city and Brooklyn, to render the plant a nuisance, and make its removal a matter of public necessity.

Sulphuric Ether.—Dr. Morton's patent for the use of sulphuric ether as an anæsthetic—the existence of which has not probably been generally known—expired on the 12th of November, 1860, and the petition for its renewal has been rejected by the Commissioner of Patents.

WE have received a copy of Lyon's "*Hand-book of Hospital Practice, or Introduction to the Practical Study of Medicine at the Bedside*," just issued by S. S. & W. Wood, New York. This unambitious little work is the production of an accomplished practical physician, and excellent anatomist. It is divided into two sections, of which the first gives "Directions for the Clinical Examination of Patients," and the second treats of "Post Mortem Examination." The tables of Statistical Nosology (Farre's) should be in the hands of every physician, for the sake of uniformity in medical records and statistics. They are "in general use in England, have been approved in France and Belgium, and accepted with slight modifications by a congress of scientific men, assembled at Vienna." Valuable chapters are devoted to Auscultation, Percussion, and Examination of the Urine. The section devoted to "Post Mortem Examination" is particularly valuable. Few medical students receive adequate instruction on this subject, and the bungling and inefficient manner in which post mortems are often made even by intelligent physicians, deprives their observations of much real value. The fifty pages devoted to this subject in the work before us are well occupied. The blank forms for recording cases are excellent models.

BOOKS AND PAMPHLETS RECEIVED.—"A Practical Treatise on Congenital Malformations of the Rectum and Anus," by William Bodenhamer, M. D., and "A Hand-book of Hospital Practice," by Robert D. Lyons, K. C. C., etc.," S. S. & W. Wood, 389 Broadway, N. Y. (from the Publishers.)—Communications of the Rhode Island Medical Society for the year 1860, (from the President.)—Address delivered before the American Medical Association, at its thirteenth annual meeting, by Henry Miller, M. D., President of the Association, (from the Author.)—Hemoptysis as a Symptom, by John Ware, M. D., reprinted from the publications of the Mass. Medical Society, 1860, (from the author.)—Anniversary Discourse delivered before the New York Academy of Medicine, by John Watson, M. D., (from the Author.)—Announcement of the Castleton Medical College for 1861, (from the Dean.)—Catalogue of the University of Vermont, (from the Dean of the Medical Faculty.)

THE PRESENT NUMBER of the Journal will be sent, as an announcement, to some gentlemen who have not subscribed for it. For the convenience of those who wish to subscribe, we enclose a blank for names and addresses, which we would request them to make use of. The subscription price of the Journal is two dollars a year, in advance.

THE article on Diphtheria, in the present number, occupies a much larger space than it is intended to give to communications from the Editors, whose object will generally be to present the contributions of others.

THE
BERKSHIRE MEDICAL JOURNAL,

EDITED BY

WM. HENRY THAYER, M. D., AND R. CRESSON STILES, M. D.

"Ore trahit quodcumque potest atque addit acervo."

VOL. I.

FEBRUARY, 1861.

No. 2.

ORIGINAL COMMUNICATIONS.

ART. II.—*The Cerebellum.* By R. CRESSON STILES, M. D.

Prior to the commencement of the present century, the numerous hypotheses respecting the office of the cerebellum, had no foundation either in accurate observation or experiment. They were of necessity, therefore, exceedingly vague and arbitrary. "It is as natural to theorize as it is to think," to try the wards of an intricate problem with all sorts of random keys. The cerebellum was represented as the servant of sensation, of motion, or of intellect—was considered to be that fabulous region, the *sensorium commune*, or the centre of control over the involuntary movements, or the organ of memory, in accordance with the caprice of the writer or teacher.

The grand idea of explaining and investigating, as far as possible, the manifestations of life through the properties of organic matter, the organic elements and tissues, started by Haller and developed by Bichat, has been the foundation of the rapid advance of medical science in the present century, controls the medical philosophy of the present day, and renders obsolete all systems of medicine into which it does not enter. In accordance with this idea, Gall, aided by accurate observers, made valuable contributions to the anatomy and physiology of the brain, proving that the great natural divisions of the encephalon possess distinct endow-

ments, and endeavoring to attach the various manifestations of nervous activity to distinct centres of influence. His system was, however, visionary, but his bold hypotheses, and the popularity of his teaching, awakened thoroughly the researches of scientific men, whose zeal was stimulated by the interest inherent in the study of an organ whose activity is connected with all the manifestations of man's superiority. In the system of Gall, in which the posterior portion of the brain was the seat of the purely animal appetites and passions, the cerebellum was the organ of the sexual instinct. This hypothesis was the result of his system, and now finds no advocates among physiologists, or, at least, none who, admitting that the cerebellum possesses this endowment, do not at the same time regard it as altogether subordinate.

The researches of Flourens, communicated to the Academy of Sciences at Paris, in 1822, confirming and extending the discoveries of Rolando, (published in 1809) fairly established the fact that the loss of the cerebellum is attended with a want of coördination of the voluntary movements. The experiments of Rolando were made by simply perforating the cranium and removing portions of the encephalon; but those of Flourens were conducted with greater precision and wider range. The organs, fairly exposed, were removed slice by slice; representatives of the whole vertebrate series were subjected to experiment; and with one constant result, viz., disorder of locomotion when the cerebellum was the seat of injury. (*Cuvier, Hist. des Sciences Naturelles.*)

The researches of physiologists since that time have fully confirmed the discoveries of Rolando and Flourens.

But coördination of movement is a complex office or function, unintelligible unless explained by plainly recognized modes of nervous activity. It is on this explanation that physiologists are divided in opinion, and we are in presence of four principal hypotheses.

1. That the cerebellum serves to distribute motor influences from the cerebrum to the muscles.

2. That it is the centre of a muscular sense.

3. That it controls the circulation and nutrition of the cerebrum.

4. That it is the ganglionic centre of tactile sensibility.

A question admitting of such a diversity of opinion must afford ample room for research, and its importance justifies the labor. It is the object of this article to present a few arguments and experiments in support of the last mentioned hypothesis.

The cerebellum a sensorial centre.

The separate sensory and motor endowments of the spinal nerves, admitted by Galen, Rufus of Ephesus, Rhazes and Boerhaave, proved by Sir Charles Bell and Magendie, gave rise to the division of the spinal marrow and its prolongations into the encephalon, into two tracts, an anterior motor tract, and a posterior

sensory. The researches of Longet, Stilling, Bernard, Schiff and Brown Séquard, and the admission of modern physiologists generally, confirm this division, although the line of demarkation between the two tracts cannot be sharply defined. All the spinal nerves of general sensation enter the posterior roots, plunge into the substance of the cord, and, radiating in all directions in their course, reach its central cineritious portion. Irritation of the posterior columns of the cord in the vicinity of the posterior roots, gives rise to acute pain, but the pain diminishes in intensity as the irritation approaches the posterior longitudinal fissure. If a transverse section be made of the whole cord, with the exception of the posterior columns, no irritation below the level of the section will give rise to *pain*, but *sensation* still persists. If the hand be passed lightly over the surface of the body, in any portion supplied with nerves from below the level of the section, the animal will turn its head towards the side touched or slightly irritated, proving that the *contact* is felt. Care must be taken that the animal receive no intimations from the sense of sight. Two years ago Schiff brought before the Scientific Congress at Carlsruhe his discoveries on the endowments of the posterior columns. His experiments are thus recorded by Longet: "Schiff makes two transverse sections in the cervical portion of the spinal marrow of a rabbit, including all the antero-lateral columns and all the gray axis, so that between the cephalic and caudal segments of the medulla, there exists no other means of communication than the posterior white columns. The animal is left at rest a few minutes. Enough blood is then drawn to weaken and stupify the animal and cause it to close its eyes. If at this moment the hinder part of the body is merely touched, the animal raises its head, opens its eyes, pricks up its ears, quickens its respiration, and thus proves that its attention is aroused by every touch. And yet the same part may be pricked, pinched, or burned, even the sciatic nerve may be crushed without giving rise to the least sign of pain. 'I take this nerve between my fingers,' says Schiff, 'and the animal reacts as before, then falls asleep again in spite of the continual crushing which I cause the nerve to undergo between my nails. But if, during the crushing, I touch lightly another sensitive surface the animal instantly lifts its head; and afterwards relapses into repose, although the nerve continues to be crushed between my fingers.'" The posterior longitudinal columns are, therefore, capable of transmitting impressions of *contact*, while their irritation will not give rise to pain.

The posterior columns of the spinal cord are continued into the restiform bodies of the medulla oblongata, which latter in their passage to the cerebellum form the inferior crura of that organ. These crura have likewise been subjected to experiment, with results similar to those obtained by experimenting upon the posterior columns of the cord, although they are reached with

greater difficulty. According to Longet, their section is not attended with pain, the phenomena observed by Rolando, Flourens and Magendie, being due to a lesion of under-lying strands. "These peduncles," he says, "appear to have relation to the transmission of a certain order of sensitive impressions, viz., those of *contact*." He invariably found their section attended with disorder of locomotion, while sensibility to painful impressions did not appear at all impaired.

Neither irritation nor removal of the cerebellum is attended with manifestations of pain, but cannot evidences of tactile sensibility be gained by acting upon the organ itself? In attempting to solve the question of its mode of activity, I have endeavored to bring the irritation to bear upon the central white portion of the organ, leaving its cortical portion, as far as possible, intact, this being necessary for the continuation of its functions. For this purpose I introduce into a puncture made by a sharp instrument, or into a sinus made by a red-hot needle, a crystal of nitrate of silver, which irritates the white strands, the cortical portion being sound, except at the small point of perforation; taking care that no blood be lost, and as little violence as possible be done to the nervous centres in opening the cranium. Without this precaution, the results would be marred and complicated. I am confident that the motion backwards, attributed by some physiologists to lesion of the cerebellum is due to the instinctive effort of the animal to escape from the source of injury, in the bewilderment induced by loss of blood, or violence to other nervous centres. In pigeons treated in the manner I have mentioned, slight convulsive movements of the eye-lids and wings were observed before disorder of locomotion became apparent; a delicate thermometer placed in the cloaca with a view of testing the supposed control of the cerebellum over the trophic nerves, and over those of the pelvic organs in particular, gave no definite indications that it possessed such an endowment. But one remarkable phenomenon often presented itself. There was a ruffling of the feathers, and the animal continued to plume itself, as if for the purpose of removing some irritation from the surface of the body and wings. This action I had observed before from simple injury to the cerebellum, and it was with great interest that I looked for its return in the experiments contrived for this purpose. It was the only positive symptom which could give rise to a suspicion that tactile sensibility had been at all affected. Comparative experiments in which all the steps of the operation were taken except the lesion of the cerebellum, and those in which the cerebrum was subjected to injury were never attended by this action on the part of the animal. Pigeons were the only animals experimented on, and they were chosen because in them it is not necessary to injure the muscles of the neck in order to expose the cerebellum. Section of the muscles of the neck is of itself sufficient to prevent flight, and

cause irregular motions; moreover, it effectually prevents the animal from pluming itself, the very symptom we have taken as an evidence that tactile sensibility is aroused.

There is, however, another much more valuable symptom which never fails to follow lesions of the cerebellum. In a bird, previous to the injury of that organ, if the finger is pressed lightly on the under surface of the claw, the claw will close upon it and clasp it tightly; when, however, the lesion of the cerebellum has produced a want of coördination of motion, this result does not follow, but sensibility to painful impressions persists. When the cerebellum has been injured on one side only, so as to impair the motion of the leg of the opposite side, the claw on the side of the lesion will clasp the finger when its under surface is merely touched, while that of the opposite side appears insensible to the impression. The gait of an animal after severe injury of the cerebellum is such as would lead to a suspicion that the tactile sensibility of the feet is impaired. In birds, long after they have recovered from the operation, there persists a ludicrous stateliness and precision of gait; the feet are lifted high at each step, and while they are able to walk slowly, if any unusual effort is made, they totter and fall, and are easily captured.

While, therefore, it is generally admitted that the cerebellum does not intervene in the perception of pain, there is reason to suspect, from experiments on the posterior columns of the cord and the restiform bodies, from the direct continuity of these white strands with the white centre of the cerebellum, and lastly from experiments upon the cerebellum itself, that it is endowed with the faculty of receiving a certain kind of impressions, viz., those of *contact*.

The sensibility of the skin constituted of several elements.

Three kinds of sensation are afforded by the skin, as distinct in character as are those of olfaction, vision and audition, viz., those of pain, contact and temperature. These are simple sensations; the ideas of form, size, density, tenacity, polish, &c., are not simple sensations, but intellectual conceptions gained through modifications of the sense of contact by muscular action. It is only within a recent period that accurate and extended observations have been made upon this subject, but enough has been done to prove that each of the three kinds of sensation mentioned may, in certain pathological conditions, be separately abolished, weakened or exalted. The cases in which, as the result of disease, sensibility to painful impressions has survived the sense of touch, and those in which the latter has existed in a part without the possibility of producing pain by violence to the same part, are of such frequent occurrence that the two terms *anæsthesia* and *analgesia* are in common use to discriminate between these two states, when scientific precision is desired in reporting cases of

paralysis. Every hand benumbed by cold, but exquisitely sensitive to pain, bears witness to the truth of this pathological distinction. Whether the same nerve-fibres may be differently affected in the production of the distinct sensations of pain, contact, and temperature, or distinct fibres are allotted to each kind of sensation, is a question still under investigation. From the experiments just cited, it appears that the sensations of *pain* and *contact* travel by different routes. Luys publishes a case in which painful impressions could readily be made in a part completely insensible to tactile impressions. On post-mortem examination, the posterior white strands of the medulla spinalis were found to be softened, while the central gray substance remained intact. (*Longet, Physiologie, Vol. 2d, p. 371.*) Landry is quite positive on this point. "It would be unphysiological," he says, "to attribute to the same nervous fibre the faculty of reacting simultaneously in several modes. How explain on such an hypothesis the different states of the sensations in paralysis? To account for the integrity of some, the simultaneous obtusion or exaltation of the remainder, we must suppose that the same nervous fibre can be at the same time sound and diseased, or the seat of two opposite morbid modifications, one abolishing, the other exalting its functions. The absurdity of this supposition, in contradiction of all known facts, is self-evident, and it is plain that to each of the tactile sensations special nerves must be allotted." (*Traité Complet des Paralysies.*)

Accurate observations on paralysis of sensation in nervous disorders are difficult to obtain. When we endeavor to bring the records of the past to bear upon the revelations of modern experiment, this deficiency becomes very manifest. In the description of cases of paralysis, it is simply stated that sensation was lost, while no mention is made of the kind of sensation affected, or whether the appreciation of impressions of contact or of differences of temperature persisted. Hyperæsthesia is rarely noted. It is even quite comprehensible that the recorded cases of congenital deficiency of the cerebellum, should have been attended with an entire absence of tactile sensibility, and that this deficiency should have passed unnoticed; and it is the more comprehensible, when we consider that the physiological symptoms attending the absence of that organ would have been masked by the compensational development of the remaining senses.

The non-existence of a muscular sense as a guide in voluntary motion.

The existence of a muscular sense seems to have been admitted without sufficient reason, and in the face of some of the highest physiological authority. It is necessary, in forming an opinion on this question, that we should be on our guard against the contradiction and metaphysical obscurity which admit the existence of sensations without perception, and that we should take the testi-

mony of intelligent persons, capable of giving a true account of what they feel. The muscles are certainly capable of painful sensations on injury ; they suffer from fatigue, cramp and disease. It has been proved by experiments on muscles laid bare by injury or ulceration, that they are incapable of appreciating temperature. That they possess a delicate sense of the degree of their own activity, may well be questioned. We certainly have no consciousness of the muscles put in activity in executing any particular voluntary action. No one, for instance, in the delicate movements of the fingers in complex and rapid variation, is made aware by any peculiar sense that it is in the fore-arm that the principal muscles which effect them are situated. We are conscious, as J. Müller argues, of the amount of power exerted by the will over them, just as we are conscious of the amount of mental effort necessary for the accomplishment of a certain work ; but this consciousness should be referred to the source of our highest endowments, of which volition is chief, viz., the cerebrum. According to Longet, we acquire a knowledge of weight and resistance, by a sense of the amount of power we originate, and by tactile impressions ; but it is difficult to admit that voluntary movements can be regulated by a consciousness of the particular muscles put in activity, derived through a sensation referred to the muscles themselves. Even the painful sensations from fatigue of particular muscles, are vague and undefined. Under the influence of an electric current, a consciousness of the existence of the particular muscle or muscles affected is experienced, which M. Duchenne, of Boulogne, calls "*conscience musculaire*," a phenomenon experienced in certain pathological states approaching to muscular spasm ; but this is an altogether abnormal and unphysiological manifestation.

The voluntary movements cannot be coördinated without the aid of sensation.

The combined movements necessary for the preservation of the individual are coördinated by the spinal marrow and the medulla oblongata, and may take place in an animal whose cerebrum and cerebellum have been removed ; in fact, some of the complex instinctive actions seem to be entirely independent of the central nervous system. Bennett Dowler removed entirely the brain and spinal marrow of an alligator, after which operation numerous instinctive actions continued to be performed. Prof. Hammond removed the brain, spinal marrow and viscera of a rattle snake, after which mutilation the instinctive action of *striking* was frequently repeated when what remained of the animal was irritated. (*Proceedings of the Academy of Sciences, Phila., Biolog. Depart.*) Those who have studied the development of the ova of the frog, have often witnessed the alternate movements of the body, such as are performed by the tad-pole in swimming at a period of

embryonic life, when no muscular or nervous fibres can be detected. The voluntary movements, however, particularly those of the extremities, are dependent upon sensation for their coördination. The only senses by which motion can be regulated, are those of sight and touch. The ear cannot give with precision the direction of sounds—that olfaction and gustation should exert an influence is impossible. It is to sight and touch alone that our attention need be directed.

That these senses serve to guide our voluntary movements, does not admit of dispute. A hand benumbed by cold is unable to execute effectively the orders of the will. This cannot be supposed to be due to the effect of cold upon the muscles of the hand, much less upon the flexors and extensors above the wrist. Individually all the motions of the fingers are perfectly performed, but their combined action for the execution of a purpose demanding successive, ordered and complex motions, is impossible, because the guiding sensation is wanting. Almost every one has experienced the danger of falling, and the difficulty in walking, on rising immediately after one leg has been crossed over the other so as to compress the internal popliteal nerve, and produce numbness of the sole of the foot. This phenomenon is not due to an interference with the extensors of the leg, which receive their nerves from above the point of pressure, but to an interference with the sensibility of the plantar nerves, branches of the internal popliteal. The guiding sensation is at fault, the foot appears to find no support, coördination is therefore impossible. The phenomena presented by many cases of paralysis fully support this explanation. Numerous instances are reported of paralysis of sensation only, in which the patient could not walk unless his eyes were kept upon his feet. If they were removed, he tottered or fell. A mother, affected with paralysis of sensation in the upper extremities, is unable to hold her infant to her breast without keeping her eyes constantly upon it. If the eye wanders, the arms refuse to support their burden. These facts are sufficient to show that coördination of voluntary movement loses all its perfection when the tactile sense is wanting, and that it is impossible without some guiding sensation.

Arguments drawn from anatomical characters.

It is certainly dangerous to reason from structure to function in judging of the properties of any tissues of the body except those subserving purely physical purposes, but when two organs belonging to the same system are found to possess in their ultimate structure a marked resemblance, while at the same time they differ from all other parts of the same system, we are naturally led to look for some analogy of function. The structures to which I wish to apply this reasoning, are the retina and the cerebellum. The only senses which give us with precision the point affected by an

irritant, are those of sight and touch. It is this precision alone which renders possible the perception of sharply defined images on the retina, or enables us to judge of the distance apart of two points by the sense of touch.

The retina is developed out of the first cerebral vesicle, and is in reality a cerebral ganglionic expansion—that which is commonly called the optic nerve is a cerebral commissure. The cerebellum is developed from the third cerebral vesicle, and in many animals low in the vertebrate scale is likewise a thin nervous expansion. Both the retina and the cerebellum are constituted of three distinct layers, of which the middle layer, that of the *myelocytes* of Robin, differentiates them from all other portions of the central nervous system. It is possible to subdivide the layer of large nerve cells in both the retina and the cerebellum, but the division of both into three layers is the simplest and most plainly recognizable. To attempt a detailed description of the anatomical elements and their arrangement in these organs would cause this article to exceed by far the limits I have prescribed. I can but give cursorily the results of a long series of patient observations.

Unless we are willing to admit that the same nervous fibre can transmit at the same time several distinct impressions, we must regard the staff-like bodies of the membrane of Jacob to be the recipients of the impressions which give rise to the formation of images. The weight of authority is in support of this view. No other elements of the retina are small enough, or are arranged with sufficient regularity to accomplish this result. Each of the nerve fibres which radiate in all directions from the entrance of the optic commissure would, if it were capable of receiving visual impressions, be affected in thousands of points in its course over the retina, thus rendering distinct vision impossible. Nor can the large cells of the internal layer receive visual impressions. They are transparent, are much too large and too irregularly grouped for this purpose. Each of these cells is of a size capable of receiving an entire picture of an external object comprising all its visible details, which, if the cell formed the recipient surface, would find no organs for their appreciation. Again, the foramen cœcum is covered with nerve fibres and large cells, but it is not impressionable even by a strong light, much less can it perceive images. There remains the middle layer of myelocytes. These also are too large and too irregularly disposed to furnish a recipient surface for definite images. But in the membrane of Jacob we find all the physical characters necessary for this end. The staff-like bodies are arranged in an uniform layer; each one of these bodies is of a size corresponding with the image of the minutest object of distinct vision; they are, according to the opinion of Dr. Draper, whose authority as a physicist is of great weight, “truly tactile organs which communicate to the sensory surface of the retina the

condition of temperature of the black pigment." We may at least be confident that all definite images are impressed upon this membrane.

From each of the rods of this membrane a delicate fibre arises connecting it with one of the myelocytes of the middle layer—each myelocyte is again connected by a delicate fibre with one of the prolongations of the large nerve cells of the internal layer.

In the cerebellum there are likewise three layers very similar in their constitution to the corresponding layers of the retina. Each leaf of the arbor vitæ is composed of a central white portion, made up of fibres; a middle layer of small cells to which, in this locality also, Robin gives the name of *myelocytes*; and an external layer, containing in its innermost portion, the large nerve-cells. I have examined the cerebellum in representatives of all the vertebrate classes, and have found these strata as constant as are those of the retina. For some time after I commenced the study of the retina, I was led to doubt, with Robin, the fibrous connection between the myelocytes and rods of Jacob's membrane, as represented by H. Müller and Köllker. I am now able to affirm the existence of such a connection in the most positive manner. I am led to believe that in the cerebellum also, the myelocytes of the middle layer are connected with the radiating fibres of the central white portion of that organ. We might suppose that a single sensitive impression is first transmitted to a myelocyte in both organs; in the retina from one of the rods, in the cerebellum from the surface through the posterior columns of the cord and a fibre of the white central substance, and in both organs from a myelocyte to a large nerve cell in the third layer. But whatever may be the validity of our suppositions respecting the transmission of sensitive impressions in the retina and the cerebellum, the fact of their close resemblance in structure is beyond dispute. We have then but two senses which give us the precise point subjected to irritation, viz., those of sight and touch; we have but two senses by which motion can be coördinated which are the same; we have a close anatomical resemblance between the retina and the cerebellum; we have certainly reason to suspect that the cerebellum is the ganglionic centre of tactile sense. We find, moreover, in many animals, an undoubted relation between the comparative development of the retina and the cerebellum, and the comparative importance of the senses of sight and touch to the activity of the animal. In the fishes of our clear streams, whose eyes are large, bright and active, and whose motions are evidently guided mainly by the sense of sight, the cerebellum is small, and such is the obtuseness of the sensibility of the skin, that they may readily be caught by the hands in the night, while those which possess laminae to the cerebellum, as some species of rays, are inhabitants of the depths of the waters where sight would be of little avail. Among reptiles, we may compare the frog and the turtle. In the

former, the cerebellum is but a thin band over the fourth ventricle, but the eye is large and bright, and serves to guide its activity, while in the latter the cerebellum is well developed, but the eye is small and dull. The bat offers a most remarkable instance of this relation between the senses of sight and touch. The faculty which this animal possesses of guiding its motions and avoiding obstacles without the aid of sight, has long been a matter of interest to physiologists. Cuvier says, "There are few more remarkable phenomena than that which Spallanzani has discovered in the bat, of being able to guide its course in the dark, to follow all the irregularities and clefts of caves, and to avoid all obstacles without the aid of the sense of sight; the delicacy of the sense of touch extending over the great surface of their ears and wings, and the extreme delicacy of their hearing may alike contribute to it." It requires but a glance at the brain of the bat to recognize that this faculty coincides with a great proportional development of the cerebellum, and on the hypothesis I have advocated it becomes no longer inexplicable.

In this summary of observations and experiments, I have endeavored to show: 1. That the posterior columns of the cord, the restiform bodies, and the cerebellum, are parts of the same sensory apparatus. 2. That the posterior columns and the restiform bodies transmit a peculiar kind of sensitive impressions, viz., those of contact. 3. That irritation of the cerebellum produces manifestations of an affection of tactile sensibility. 4. That destruction of the cerebellum is followed by symptoms indicating a loss of tactile sensibility. 5. That tactile sense is necessary for the coördination of voluntary motion. 6. That sight and touch are the only senses which give with precision the point affected by external stimulation,—the only senses by which motion can be coördinated, and that such a correspondence in ultimate structure exists between the retina and the cerebellum, that we are justified in seeking for a correspondence in their functions.

We have no idea of the nature of the sensations experienced by the lower animals; we can judge of them only by those which we ourselves experience. It is to cases of injury or disease of the cerebellum in man, that we must look for positive proof concerning its office. Even the experiments which we have cited as most convincing, those in which one side of the cerebellum was injured, and the other side refused to respond to tactile impressions, while at the same time the animal would cling to its perch with both feet, by an act of volition, are liable to objection. It is possible that it was only the *reflex* action of the cerebellum which was impaired by the operation. The fact that the foot in nervous connection with the uninjured side always responded to impressions of contact by clasping the object presented, while that in connection with the injured side refused to do so, can only be explained on one of the two suppositions, that in the latter case

either the contact was not felt, or that the *reflex* activity of impressions of contact was at fault. But it is most in harmony with the physiology of the other senses to admit that the centre of touch can also react in the production of reflex motion. All the other senses can arouse reflex activity, and the "sensori-motor" actions are admitted as a great division of reflex manifestations. Why should they be denied to the sense of touch?

In man, uncomplicated injury and disorganization of the cerebellum are infrequent, and the cases in which it occurs are little suited for giving response to delicate sensitive impressions. The medulla oblonga, and the base of the brain are almost always implicated in the disorder of the cerebellum by pressure or contiguous irritation, obscuring the symptoms offered by the lesion of the organ itself. The following are, however, generally received as symptoms of apoplexy, or softening of the cerebellum: Sensibility to painful impressions persists; the patient can, when urged, place his limbs in any given position, and maintain them in that position; and coördination of voluntary motion is lost or impaired.*

These symptoms point to the loss of a guiding sensation. But to decide the question of the intervention of the cerebellum in the reception of tactile impressions, we must call upon physicians for accurate observations upon the nature of the paralysis accompanying disorders of that organ, in the rare cases admitting of such investigations which may come under their care. Accurate post mortem observations may also serve for the elucidation of this question. Cases have been observed of atrophy of the cerebrum, consequent upon chronic lesion of the cerebellum; but these, so far from militating against the doctrine that the cerebellum is the ganglionic centre of tactile sensibility, and sustaining that of a peculiar control exercised by that organ upon the nutrition of the cerebrum, are in reality favorable to the former hypothesis. The destruction of the retina or optic commissure induces an atrophy of the optic tract of the cerebrum; a corresponding atrophy of the cerebral centres of tactile sense should follow the destruction of the tactile ganglion or its commissure.

* For an analysis of twenty-six cases of cerebellar hæmorrhage, see Hilairet, in *Archives Generales de Médecine*, for February, March, April, and May, 1858.

ART. III.—*Hypodermic Injections.* BY W. H. THAYER, M. D.

Dr. Alexander Wood, of Edinboro', contrived several years ago an instrument for the introduction of medicines beneath the skin. The instrument consists of a gutta percha syringe, of the capacity of half a drachm, having a perforated steel needle screwed to its nozzle. It was intended for the treatment of acute neuralgia, by the injection of strong solutions of the salts of morphia. Other medicines have, however, been employed, and its use has been extended to a variety of diseases, and to meet other indications than the relief of pain alone. The substance, besides morphia, which has been used with the greatest success, is the sulphate of atropine; and the various remedies have been employed for the control of several inflammatory diseases as well as neuralgia, and in mania, delirium tremens and convulsive affections. This mode of treatment has gained great favor in the United States during the past year, as it had previously done in Great Britain and France. I propose to present in the briefest manner my own experience with it in a small variety of cases.

CASE 1. *Sciatica*.—A farmer's wife, about forty-seven years of age, had sciatica of two months standing, brought on apparently by over work. Pain severe, daily, worse towards night; on Sunday nights and Mondays, the least. Chief points of pain are the gluteal region, calf of leg, and ankle; with moderate tenderness. Pain also in left elbow, but less. Habitual constipation. Directed *extr. colchici rad. gtts. x* three times daily. Injected *morphiæ sulphatis gr. one-sixth* in solution, into calf of leg. The colchicum was continued seven days, when free evacuations were produced, and it was omitted. The general directions were, rest from labor, gentle exercise at intervals daily, a little wine and a generous diet. And a few days after the colchicum was omitted, she was put upon the sulphates of quinia and iron, each *gr. iii* daily. The injection was repeated ten times, at intervals of one, two or three days, according to the return of the pain, the plan being to give it when the pain first began to reappear. It was made in different parts of the body, on the arm, leg or neck, and apparently with equally good effect. There was some increase of the symptoms about four weeks from the commencement of the treatment, when colchicum was substituted for the quinia and iron for a few days. After this time there was uninterrupted improvement, and the injection was not repeated. My patient, who lives some miles out of town, presented herself a few weeks ago, eight months after

wards so severe as before. The patient returned to me a fortnight later, with his shoulder still stiff and sore, apparently from rheumatism. Under the chloride of potassium, 15 grains a day, he became gradually relieved.

CASE 12. *Sprain.*—A gentleman sprained his ankle while out of town, and not reaching home till midnight, waited till morning before sending for me, although suffering excruciating pain all night. I saw him about sunrise, injected morphinæ sulphatis gr. 1-6, into the leg, with immediate entire relief of pain, so that the foot could be moved, and handled, except over the extremity of the fibula, without pain. Water dressings were applied, and there was no pain whatever afterwards except on motion. A starched bandage was applied on the fourth day, and the recovery was very satisfactory—so that in a fortnight he walked without any pain, and without crutches.

Since the first case, I have never used more than a sixth of a grain of the sulphate of morphia in one injection, and this amount has proved to be sufficient for the purpose. In acute peritonitis, or other inflammatory diseases, I presume a larger amount and more frequent repetition would be needed. The medicine evidently acts with its full force when applied thus directly to the areolar tissue, and has the very great advantage of acting promptly. In the severest cases to which I have applied it, there has been complete relief of pain in less than five minutes. The relief in cases of neuralgia has continued nearly twenty-four hours, and sometimes double or triple that time. It seems to have a curative effect in neuralgia, the pain steadily lessening from day to day,—an effect far beyond any that is observable when narcotics are administered by the stomach. There were only two of these cases, in which there was much disturbance of the stomach after the injection; in most of them there was no unpleasant consequence whatever. As to the place for the injection, there seemed to be no difference in the effect, whether it was made in the vicinity of the painful part or in any other part of the body. In general the injection gave no real inconvenience, at the time or afterwards—occasionally there would be a little soreness of the part injected for a day or two. I have used a concentrated solution, one grain in three-quarters of a drachm of water, so that the amount injected fills one-fourth of the syringe. The skin should be pinched up by the thumb and finger of the left hand, when the needle is easily introduced, and then pushed forward through the loose subcutaneous areolar tissue.

ART. IV.—*Fatal Peritonitis, following Perforation of the Gall Bladder.* By F. A. CADDY, M. D., Pittsfield.

I was called, September 25, 1860, at 1 o'clock, P. M., to attend Mr. R. S. Found him suffering from intense pain in the region of the stomach—most severe just under the cartilages of the eighth, ninth and tenth ribs, on the right side, with some paroxysmal pain in different regions of the abdominal cavity. There was but slight tympanites. Yet he suffered from such exquisite tenderness over the whole of the abdominal surface, that even the weight of the warm cloths that had been applied, had become unendurable. The thighs were flexed upon the abdomen. The countenance wore a pinched and anxious expression, and he suffered from almost constant retching and vomiting. Pulse 140, small, hard and irregular. The patient was habitually costive, had used purgative medicines constantly, and had suffered two attacks of acute peritonitis, one two years, the other three years previous to the present time, from each of which he had fully recovered, under the use of opium.

I learned from him that twenty-four hours previously, while about his business, having taken his dinner as usual, he was attacked with severe circumscribed pain just under the cartilages of the ninth and tenth ribs on the right side, which increased in intensity and in extent with such rapidity that he was obliged to take to his bed within the hour after it first commenced.

The pain continued to increase, and at 8 o'clock in the evening, he sent for a Homœopathic practitioner, who saw him then and on the following morning, (September 25th.)

The pain, fever and general distress continuing to increase, the Homœopathist was discharged at 12 M., and I was called in at 1 P. M., when I found the symptoms above described. I regarded it as a case of severe peritonitis, and prescribed grs. iv of powdered opium, and left another gr. iii powder of opium to be given at 3 o'clock P. M.

Saw the patient again at 5 P. M., four hours from my first visit, and found him bathed in perspiration, the pulse 135, the paroxysmal pain somewhat abated, the continued pain and distress about the same. The vomiting had ceased after the administration of the first powder. Gave him grs. iii of opium, and left directions for an enema, containing 80 drops of laudanum to be given at 6 o'clock, and another iii grs. of opium to be given at 7 P. M.

At 8 P. M. I was called to him again, and found him upon the floor, writhing and screaming with the paroxysmal pain, which I learned had recurred half an hour previous to my arrival. The

vomiting had returned, the pulse was 150. I immediately gave drachm i. of laudanum by the mouth, and drachm iii. by injection. After waiting an hour, until 9 P. M., and the patient getting no relief, except from the cessation of the vomiting, I gave 80 drops of laudanum by the mouth and 150 by injection. At 9 1-2 o'clock the vomiting recurred, and he threw off a portion of the last dose of laudanum. After the vomiting, the paroxysmal pain in a manner subsided, the pulse fell to 130, and he was in all respects more quiet until 11, when the paroxysmal pain returned, and the pulse rose to 150. He had a slight attack of vomiting. He lay with head, chest and thighs flexed upon his abdomen, and the tenderness on pressure in no way abated. I gave him 60 drops of laudanum by the mouth and 140 by injection. At half past twelve A. M., he vomited a little mucus, after which he was more quiet and easy for three-fourths of an hour, his pulse 140, and somewhat irregular. At 1 1-4 A. M., the pain returned. I gave him 100 drops of laudanum by the mouth and 200 by injection. After a little time he became quiet, and slept from 2 till 2 1-2 A. M., when he waked, perspiring profusely, pulse 128, and now regular. At this time the pain increased, and I gave him 50 drops of laudanum by the mouth and 100 by injection. In a few moments he became easy and quiet, and slept until 4 A. M., when he waked without much pain, perspiring freely; respiration easy, pulse 116; complained less of tenderness on pressure, no tympanites. Gave direction to the attendants to administer 50 drops of laudanum by the mouth, and 100 by injection, at 6 o'clock, if the pain increased.

I saw him again at 8 A. M., after four hours' absence, when I found him free from pain. He expressed himself greatly relieved, and in all respects feeling very comfortable. His attendant informed me that the patient had had several short naps, had been free from pain and very quiet, and that he had not administered the last prescription. On examination I found no pulse at the wrist, but a slight, irregular pulsation in the temporal arteries; the lower extremities cold to the knees, and the upper to the elbows. I informed his friends that I believed the peritonitis dependent on perforation, and that he could not live many hours. Made no prescription. Called Dr. O. E. Brewster in at 9 o'clock, when it was agreed that nothing could be done except for temporary support. Gave him brandy and water, and stimulating injections. After this he had occasional vomitings, but no pain; was perfectly rational, and conversed freely, until within a few moments of his death, which occurred at 2 P. M.

Autopsy, four hours after death. Nothing unusual in the appearance of the surface of the body—abdomen rather full, but not tympanitic.

On dividing the walls of the abdomen, found half an inch of adipose tissue; muscles rather pale. On opening the peritoneal cavity, found it filled with a dark, yellowish-brown fluid,

containing bile and pus. The mesentery and the serous covering of the intestines was covered with a thick layer of pus, beneath which, and between the folds of the intestines, we found layers of recently formed false membrane, in many places agglutinating the opposing surfaces of the peritoneum together.

The hepatic flexure of the colon was adherent to the liver by old and strong bands of false membrane. The transverse colon was firmly bound to the anterior walls of the abdomen, by layers of false membrane so firmly organized that it was with difficulty detached. The stomach was adherent to the anterior part of the interior surface of the liver, and the liver to the diaphragm by similar bands.

The gall bladder was thickened and somewhat enlarged, with a circular opening in the most depending portion of the culdesac, with clean edges, presenting the appearance of having been made with a sharp instrument corresponding in size and form to the opening. Through this opening the bile had escaped into the peritoneal cavity, but no gall stones were discovered in the gall bladder or in the peritoneum, although carefully looked for. Every portion of the peritoneum gave evidence of recent inflammation, but most intense in the neighborhood of the liver.

ART. V.—*Medical Cases.* By CHARLES W. PARSONS, M. D., Providence, R. I.

1. *Congenital deformity of thorax ; permanent bellows-murmur of heart.*—I have had under observation for eleven years, a boy, now fifteen years old, who presents a deformity of the thorax, with a permanent bellows-sound of the heart, and appears to have overcome the untoward symptoms caused by this condition of things. He was born with the umbilical cord twisted around the chest, and did not breathe for some time ; was very pale, and thought to be dead. He continued pale, and was subject to attacks of dyspnoea, at one time simulating croup, but improved after taking him out to ride. He was soon found to be *pigeon-breasted*, as the deformity was called. The action of the heart was more plainly felt than it should be, by a hand placed over its apex, producing a peculiar thrilling sensation.

The above statements are obtained from the mother. I first saw him when he was four years of age. The ribs below the fifth were flattened in, destroying the natural convexity of the lower part of the thorax on both sides ; the ends of the ribs were more prominent than the sternum, so that the costal cartilages receded in passing from the ribs toward that bone ; the sternum was distinctly bent at about the junction of the third ossifying centre of the middle piece, or body, with the fourth ; so that the upper portion

of the body was pushed forward, oblique downward and forward; the lower portion, with the ensiform cartilage, being very nearly vertical. A loud bellows-sound, nearly approaching the *bruit de scie*, was heard over the heart. This appears to begin with the first sound of the heart, is continued through that and through almost all the interval between that and the second sound, which can be heard separately, immediately after the bellows-sound, or with a scarcely perceptible interval. The maximum intensity of this sound is over a space between the fourth and sixth costal cartilages and ribs, and between the left nipple and edge of the sternum. It is heard over the whole left front, in the axilla, and, less distinctly, to the right of the sternum. It is faintly heard with a stethoscope applied to either carotid. Dullness of percussion greatest between fourth and sixth ribs, but perceptible at level of third rib; normal, I believe, in situation and extent. The pulse was regular and healthy.

Through childhood he had habitually quick and short breathing; was easily tired, yet very active, playing out of doors a great part of the time; was subject to headache, never very severe; also to flushing of the face, without obvious immediate occasion. He would frequently wake suddenly in a fright, and remain sometime bewildered, requiring some minutes to restore him to correct consciousness. He was very nervous, agitated to excess by any little surgical operation or dressings. He was habitually rather pale, never livid.

His whole training through childhood was planned to strengthen his muscles and particularly to enlarge the chest and bring it to proper form. He was interested in all active exercises, especially of the arms,—boxing, swimming, and rowing,—which last appeared to me best adapted of all to enlarge the thorax by the action and development of the pectoral muscles. He is now an athletic lad, of fine complexion, and as good wind as any one in his school, able to walk many miles, and run, or trot, a mile or two, with ease. The deformity of the chest is lessened; the sternum having been in a good degree straightened, and the receding of the costal cartilages being much less marked. But the bellows sound of the heart continues the same. I have notes of an examination in May, 1852, which correspond very exactly with what I have just observed, in January, 1861, in regard to the results of auscultation and percussion.

2. *Arrest of growth, with very defective general circulation.*—A boy, aged 14, was brought in by his parents, who were both of American birth, and moderate intelligence, living in the country. This boy presented nothing peculiar before the age of 9; had measles, whooping cough, pneumonia and dysentery in childhood, but continued to grow, was healthy and active. When nine years old, he had a sickness which is said to have kept him in bed about

a week, and to have been accompanied by pain in the head and ear. From that time he ceased to grow in height, has been weak and inactive, cold, very much troubled with cold feet. The skin has been dry, subject to scaly eruptions; over two years before I saw him, the hair began to fall, it is now dry, dark-colored, with a good deal of dandruff, thin, nearly gone back of a line drawn over the ear-tips. Cuts have been slow to heal. He has headache almost every day, generally about noon; with throbbing. Has occasional turns of increased weakness, with loss of appetite, nausea, often some diarrhœa; is usually constive, but has good appetite. The turns just referred to take place at intervals of one or two months. He has lately rather improved in strength and activity.

I find *no pulse perceptible* in the radial, carotid, or temporal arteries; the heart's sounds are regular, first sound weak. The voice is manly. His height is 3 feet, 10 inches; distance from one acromion to the other, 11 inches.

The mother said there was nothing unnatural among the relatives, as to size or form. The oldest, aged 21, a daughter, is normal. The second, aged 18, a daughter, stopped growing at the age of about nine; has been subject to headache, has been weakly, but improved since the appearance of menstruation at the age of seventeen. Physicians have noticed that she had no pulse at the wrist,—so the mother assures me.

PROCEEDINGS OF SOCIETIES.

BERKSHIRE DISTRICT MEDICAL SOCIETY.—The Society met at Pittsfield in the Chemical Hall of the Medical College, on Wednesday, Jan. 23d. Dr. T. CHILDS, Vice President, in the chair.

MEMBERS PRESENT.

H. H. CHILDS, Pittsfield,	DeWOLF, Chester,
BREWSTER, Pittsfield,	MANNING, Pittsfield,
CADY, Pittsfield,	STILES, Pittsfield,
BELL, Huntington,	LAWRENCE, North Adams,
KITTRIDGE, Hinsdale,	MEACHAM, West Stockbridge,
MILLER, Pittsfield,	DUNCAN, Williamstown,
STREETER, North Adams,	ROOT, Pittsfield,
A. M. SMITH, Pittsfield,	DEMING, Lenox,

EVANS, Lee.

By general consent the subject of Diphtheria was made the main topic of discussion.

Dr. H. H. Childs called attention to the various forms in which the diphtheric poisoning manifested itself, and objected to making the existence of the false membrane the only reliable sign of diphtheria. He thought there was a succession of symptoms which revealed the diphtheric poisoning as surely as the existence of the false membrane.

Dr. Root called attention to the points of resemblance between scarlet fever and diphtheria. He was not yet convinced that the poison might not be the same in both these diseases, modified in the latter by other conditions.

Dr. DeWolf could by no means agree with *Dr. Root*. He had been in practice thirty-five years, had often seen scarlet fever, croup, ulceration of the fauces in many low forms of febrile disease, but was convinced that the disease now prevailing, was different from anything he had before seen. *Dr. DeWolf* gave a detailed history of several of his cases, with treatment.

Dr. Duncan had practiced medicine for twenty years and had never seen similar cases. He was convinced that diphtheria, like most other zymotici, was an exanthem—had often found on the thorax and abdomen a roseolous eruption (*R. Punctata?*), not like the rash of scarlet fever, but darker, not continuous. *Dr. D.* had seen an abrasion of the cuticle covered with false membrane, and asked of the members of the society if they had seen such a phenomenon manifested in a case of scarlet fever. No one had witnessed it. He cauterized with the solid stick, not of pure nitrate of silver but containing five per cent. of chloride of silver, which is less brittle.

Dr. Bell gave the history of three cases of diphtheria—had never seen scarlet fever present characters at all similar.

Dr. Smith had been treating cases of diphtheria since September; in most of his cases the membrane invaded the nostrils.

Dr. T. Childs exhibited two specimens of membranous exudation in the larynx, one larynx from a case of diphtheria and another from a case of croup. In both the membrane existed above the larynx,—the croupal membrane was much tougher than that of diphtheria. *Dr. C.* thought it necessary in the treatment of diphtheria to cauterize early and thoroughly, in order to prevent the membrane from following its regular course of invasion.

Dr. Lawrence described six cases which had occurred in his practice since the last meeting. In one case, seen first on the fourth day of the disease, there was hurried respiration as in the last stages of croup, throat almost closed by swelling and exudation, nose and pharynx coated—every symptom seemed to announce a speedy fatal termination. Child immersed in a mustard bath—caused to inhale steam by placing the head and inhaler under the same covering—antimonial emetic—tincture of aconite—in 6 hours the breathing was relieved—five hours after, the former symptoms returned—again the mustard bath and steaming were resorted to

—vomiting took place—the breathing was relieved, and under supporting and stimulating treatment, the child recovered.

Dr. Manning is convinced that diphtheria and scarlet fever are due to different poisons—has never seen true croup cured.

Dr. Miller had seen twenty cases of tracheotomy in croup; only three recovered.

Dr. Stiles spoke of the various characters presented by the plasma effused in the various inflamed tissues, and on the inflamed membranes. He thought that in croup and diphtheria there was simply an alteration in the character of the nutrition and secretion of the mucous membrane, so that instead of a mucous secretion a plasma was effused similar to that on serous membranes. That this plasma might have all degrees of plasticity, corresponding with the degree and character of the changes in the nutrition of the membranes, and that the presence or absence of false membrane on the pharynx and air passages could not be made a test of the presence or absence of the diphtheric poison in the blood.

The discussion fairly established the mild character of the present epidemic. In the fatal cases, death generally resulted from suffocation; in one case, from syncope. A large proportion of the cases were adults. Quite a large proportion were accompanied by an exanthematous affection, but the distinctive characters between diphtheria and scarlet fever were plainly shown. There was also an entire unanimity on the subject of treatment, which was locally escharotic and detergent, and constitutionally stimulating and supporting.

The report on the question of the possibility of the *retrocession of labor* after the escape of the liquor amnii, represented that such cases were not infrequent. The testimony of Velpeau, a report of four cases in the *Archives Générales de Médecine*, by A. Charrier, and a letter from Prof. Seymour were brought forward in support of the opinion of the committee.

Velpeau says in his *Treatise on Midwifery*, translated by Ch. D. Meigs, Philadelphia, page 239, "The discharge of a certain quantity of brownish matter or of serosity, the softening of the cervix, the rupture of the membranes, the formation of the bag of waters, with pain extending from the navel towards the excavation constitute the most conclusive signs of miscarriage; nevertheless, M. Desormeaux has known all these signs to be present after a fall, and yet abortion not ensue. M. Morlanne relates the case of a woman who was not delivered until six weeks after the discharge of the waters; there has also been recently mentioned the case of a woman six months gone, in which the bag of waters formed and then ruptured, so that the arm engaged in the vagina, after which the labor was arrested, the fœtus returned to its proper position, and the pregnancy proceeded in its natural course. The author of it saw and felt; we must believe him."

"The fluid that escapes from the cervix may besides come from an hydatid cyst, or from between the membranes; in such a case it is very evident that the pregnancy might not be necessarily disturbed; it may also proceed, in double pregnancy, from the rupture of one ovum, while the other may not suffer the least alteration."

In Dr. Charrier's cases there was "an escape of mucus or liquid, uterine contraction readily felt through the abdominal parietes, obliteration of the neck, dilatation more or less of the os, tension of the membranes during the pain; but the contractions of the uterus ceased, the membranes were no longer distended, the os closed, thickened, the neck was formed again without recovering its primitive length, but the index finger introduced could distinguish the two orifices of the neck of the uterus." Dr. Charrier explains these phenomena on the hypothesis that an irritation of the uterus, from some cause, gives rise to a hypersecretion of liquor amnii, that its over distension is relieved by the rupture of the membranes and an escape of liquid, after which the pregnancy proceeds on its natural course.

He draws the following practical conclusions from the cases reported. "Whenever a woman has had an escape of mucus or liquid, in greater or less quantity, and the pregnancy has not reached its full term, the physician should always act as if the labor could be arrested, notwithstanding the obliteration of the neck, the commencing dilatation, and the uterine contractions. He should prescribe rest in a horizontal position, and narcotics, opium in particular, which, it is well known, is the uterine sedative *par excellence*. In fact, whenever the rupture of the membranes cannot be certainly recognized it is possible that there may be only a commencement of labor which can be suspended, can *retrocede*, and consequently permit pregnancy to go on to full term."

Prof. Seymour alluded to the numerous instances in which the membranes were perforated for the purpose of procuring abortion in which the waters escaped, and yet delivery was not effected. He thought the amnion had the power of repairing its lacerations, particularly when the rupture did not take place at the os, but in some portion supported by the uterine parietes.

Drs. Root and Lawrence brought forward cases in support of the views of the committee. The report was accepted.

The Society then adjourned, to partake of a hospitable entertainment provided by Dr. A. M. Smith.

SELECTIONS FROM AMERICAN AND FOREIGN JOURNALS.

1. NITRATE OF AMMONIA AS A TONIC.—The attention of the profession has been recently called to the nitrate of ammonia as a means of introducing an increased quantity of oxygen into the system. A female is now under treatment in Bellevue Hospital, in whose case it has been used with the most satisfactory results. She had suffered for a long time from disease of the knee-joint, when the limb was amputated in the thigh by Dr. A. B. Mott, in the early part of August. For the first four days after the operation, the patient was in a most precarious state, and apparently liable to sink at any moment. She was freely stimulated with brandy and milk punch, but still she continued to decline. Suppuration from the stump was most profuse, and it seemed to be making little or no progress towards reparation. Quinine, carbonate of ammonia, and chlorate of potash, were each in turn tried with no better success. At the suggestion of Dr. Barker, they were now stopped, and nitrate of ammonia, grs. xv., three times a day, administered, while the brandy and ale were continued in small quantities. From the moment the nitrate of ammonia was begun, the stump assumed a more healthy appearance, and her general health began to improve. The amendment has been gradual but steady ever since. (*Am. Med. Times*, Nov. 3.)

2. MORPHIA SALTS.—Dr. Edward R. Squibb, of Brooklyn, has observed within the past ten years, a gradual augmentation in the doses of these salts, and more particularly of the sulphate, which is, to say the least, very remarkable. As it is easily demonstrable that opium has not increased in sedative power, but has probably decreased within the time mentioned, it is fair to infer that it is the salts of morphia that are at fault, and that the deficiency is due to bad pharmacy. When one-sixth to one-fourth of a grain of salts of morphia was found to be equivalent to a grain of opium, the salts of morphia were brown and granular, and presented a very different appearance from the beautiful white crystalline preparations of the present day. Both the druggists and pharmacutists would now-a-days instantly reject morphia salts that were of a brown color, and it is probable that most physicians would also object to such as being impure. It is nevertheless a fact that when morphia salts are extracted from opium in the most simple way, and that which interferes least with their normal condition, they are of brown color; and that the after processes

by which they are rendered white are well calculated to change the character and even the constitution of the delicate alkaloid. * *

The amount of coloring matter and all other impurities in such preparations [morphia, quinia, veratria,] does not amount to more than one or two per cent, and may therefore be totally disregarded in a medical point of view, since but the hundredth part of each grain would be inert. On the other hand, it is not probable that any process of bleaching could be adopted which would not introduce more than twice as much inert matter, or render twice that proportion of the original alkaloid ineffective as a medicinal agent. There is a great deal of this fictitious value sought and obtained for medicinal substances and preparations, which is neither legitimate nor harmless, while it subserves the very bad purpose of often misleading those who can and do judge only by appearances and sensible properties, not only to the acceptance of inferior medicines, but to the condemnation of such as might be better worthy of confidence, wherein the labor and skill might have been bestowed rather upon the material and composition than upon the appearance. (*American Med. Times*, Nov. 3.)

[Dr. Squibb's opinions on therapeutics and pharmacy have unusual weight, as, to the character of a practical pharmacist, he has the advantage of adding the education and experience of a physician. As there is nothing connected with medicine in which physicians are more generally deficient in knowledge than pharmacy, we desire to offer every encouragement to any gentleman who is able and willing to furnish chemical preparations on which we can confidently rely.]

3. ON THE THERAPEUTICS OF OPIUM.—In the course of a discussion of this subject in the Philadelphia County Medical Society, Dr. Condie said that in children he had always found it badly tolerated, even in minute doses. When employed by parents or nurses, as is too frequently the case, to quiet these little patients, it checks the nutritive functions, and, as he had repeatedly seen, causes the child to assume an old and withered look.

Dr. Remington objected to opium in children, as it impaired the tone of the organs of digestion, and had a decided tendency to the brain. He related a case of cholera infantum in the winter season, induced by the long continued use of laudanum to relieve colic and cause sleep. Under good diet, and the absolute interdiction of the opiate, a rapid recovery took place. Indiscriminately used in the diseases of children, it causes convulsions, constipation, and determination to the brain. (*American Medical Times*.)

4. ANTAGONISM OF OPIUM AND BELLADONNA.—Several instances of poisoning by belladonna or atropia have now placed beyond question the advantages of opium as an antidote. These facts have

moreover shown the impropriety of combining them in the same prescription.

In the *Gazette Médical de Lyon*, Mr. Perroud publishes a curious instance of poisoning by the application of a belladonna plaster, in which the symptoms yielded to preparations of opium. The converse of this case was communicated to the Cincinnati Lancet and Observer, by Prof. Comegys, who states that with an enema containing half an ounce of tincture of belladonna he succeeded in restoring a man whose life had been greatly imperilled by the injection of two ounces of laudanum. (*Championnière's Journal*.)

5. WOORARA IN POISONING WITH STRYCHNINE.—Our readers have doubtless not forgotten Mr. Vella's attempts to cure tetanus with woorara. This application of the drug to therapeutic purposes was founded on the property attributed to woorara, of paralyzing the nerves of motion and counteracting the effects of strychnia. Although this substance has hitherto failed in effecting a cure of tetanus, it remains proved, according to Mr. Vella, that strychnia and woorara are antagonistic to each other, a fact now supported by ninety-seven experiments on animals. The assertion that woorara is the true antidote to strychnine, brought again before the Academy by Mr. Vella, has been referred for examination to a committee consisting of Messrs. Flourens, Royer and C. Bernard. (*Championnière's Journal*.)

6. THE ÉCRASEUR.—This instrument, which has been for several years before the profession, consists essentially of a chain ligature and a constricting apparatus, by means of which it may be progressively tightened. It has been most successfully and extensively used in the removal of hæmorrhoidal tumors. In many respects it is superior to the ligature, and for the removal of vascular tumors is superior to the knife, but it will never supersede either. An instrument with a screw is preferable to one with a lever handle; and in Paris, many surgeons, in using the *écraseur*, substitute a soft cord of strong hemp for the chain, believing it to cut with less contusion.

At his weekly conference of September 24th, Mr. Chassaignac produced four patients whom he operated on with the *écraseur*. Mr. C. acknowledges that with regard to the excision of large subcutaneous growths, such as lipomas, tumors of the breast, etc., linear crushing (removal with the *écraseur*), has not yet given sufficient proof of its definitive value. It is not so for cancer of the tongue or penis, for erectile tumors, hypertrophy of the cervix uteri, or hæmorrhoidal growths. In these affections, the *écraseur* is a most efficient instrument. The great advantage of its use is that it preserves the patient from the chances of secondary hæmorrhage, and lessens the perils of traumatic fever.

When crushing was first resorted to for the excision of piles,

Mr. Chassaignac was in the habit of removing the entire tumor, and adopted the same plan for those hæmorrhoids which, seated at the margin of the anus, are partially covered with skin. The excision of this portion of their cutaneous envelope gave rise to the formation of an extremely retractile cicatrix, which readily degenerated into progressively increasing coarctation. This unpleasant result is henceforward not to be feared. Mr. C. now removes circularly but the hæmorrhoidal apex, a procedure sufficient to secure a satisfactory issue.

Phymosis is also a condition for which the *écraseur* is appropriate. A young man, presenting this deformity, was operated on with this instrument with remarkable precision and dexterity. After etherization, the operator inserted into the prepuce the common dressing-case forceps, and its parted blades allowed the thumb to be placed in front of the glans, as a guide to a trochar, with which the part was perforated. The canula of the trochar was left *in situ*, and the chain-saw divided the prepuce and the glans penis. Not a single drop of blood escaped during this rapid section. The skin and the mucous membrane, were then united with a few silver wires, a useful American importation. (*Braithwaite's Retrospect and Championnières Journal.*)

7. DIGITAL PRESSURE TO CONTROL HÆMORRHAGE.—A man having received a blow on the arm with a stick, was found subsequently to have enormous tumefaction of the arm with purple discolorations. Two incisions were made, from which two quarts of blood escaped, and the hæmorrhage apparently ceased. It recurred, however, and agaric, sequichloride of iron, methodical pressure with lint, etc., were unavailingly resorted to. The brachial artery was injured, and the mortification of the surrounding textures, consequent on the blow, the presence of pus and blood beneath the fascia and in the cellular tissue, forbade the thought of ligature of the brachial or axillary artery; amputation of the extremity seemed to be the only resource, when Messrs. Bury and Desperrière, surgeons of the hospital to which the patient had been conveyed, determined to give a trial to digital pressure of the artery. The house-surgeon and four Sisters of Charity undertook in turns the task of applying finger-pressure to the upper part of the brachial artery for one hour each, alternately, from 8 A. M. on the 22d of June.

The first two or three hours of pressure caused a good deal of pain; after that time, however, the suffering subsided, and much local relief was experienced, the arm having considerably decreased in size at the close of the first day. On the 23d, at 8 A. M., viz., after compression had been uninterruptedly persevered in for four and twenty hours, the operation was discontinued for a few minutes, but a few drops of blood having oozed out, it was resumed as before, *i. e.*, the right middle finger being applied over

the blood-vessel, supported by the fingers of the left hand, in order to steady it in the weaying position it had to preserve for the space of an hour. On the 24th, pressure was discontinued during the visit of the surgeon, and no blood escaped, but from motives of prudence, easy to appreciate, it was then resumed and persisted it during the day up to 8 P. M., the artery having thus undergone sixty hours of digital pressure.

Since that period there has been no return of the hæmorrhage. The patient remained in the wards up to July 31st. (*Championnière's Journal.*)

8. INJURY OF THE EYE BY LIME.—This eye had been poulticed by the advice of a friend, and consequently the cornea is almost destroyed. Prof. Carnochan spoke strongly against the practice of poulticing the eye when inflamed. He related an instance where he was attending a person for ectropion. On the fourth or fifth day the patient felt considerable pain in the eye, and his brother physician applied a poultice, which in forty-eight hours produced opacity of the cornea. (*American Med. Times, Nov. 3.*)

9. SUIT FOR SLANDER—INVERSION OF WOMB.—A case of more than usual interest to the profession was tried in the Circuit Court of Chicago in November. The plaintiff in the case, Dr. A. Fisher, a regular physician, of good standing, and about twenty-five years in practice, was called upon to attend the wife of the defendant (H. O. Stone) in her first confinement, April 9, 1858. The labor lasted three hours, and in the report of the case, contained in the *Chicago Medical Journal*, by the plaintiff, it is stated that nothing unusual occurred, except a severe pain in the right side, between the fourth and fifth ribs. On May 7, twenty-eight days after her confinement, the plaintiff was recalled to the patient, on account of her flowing. He advised rest, cold externally, and astringent injections. These affording only temporary relief, on the 18th of May, thirty-nine days after her confinement, he made a digital examination, and, "to his utter astonishment, found the uterus completely inverted, with the fundus resting on the perineum." Dr. Fisher did not replace the uterus, and it remained until Oct. 14th, 1858, six months after confinement, when she consulted Dr. Potter of Geneva, N. Y., who restored the organ to its natural position. Recovery rapidly followed, and in two weeks she returned home.

In March, 1859, Dr. Fisher prosecuted Mr. Stone for slander, alleging that he had used every means in his power to injure his character as a professional man, by misrepresenting his medical skill in general, and the treatment of this case in particular. He claimed damages to the amount of \$20,000. Since March, 1859, both parties have been actively engaged in preparing for the trial. Depositions have been taken of Professors Miller, Meigs, Bedford,

Delamater, Quackenbush, and Lee. Professor White, of Buffalo, and Dr. Potter, of Geneva, attended the trial as witnesses for the defendant. The jury brought in a verdict for the defendant.

It may be of interest to know that Mrs. Stone was confined in July, 1860, without any unusual occurrence before, during, or after labor. (*American Medical Times.*)

This prosecution has been productive of some good. It has drawn out some very elaborate and valuable papers on the subject of inversion of the uterus. The Cincinnati Lancet and Observer has been publishing Dr. Delamater's deposition, and the American Journal of the Medical Sciences for October, 1860, contains a statistical paper on inversion of the uterus, by Dr. Lee, of which we presented an abstract in this Journal.

10. TRANSMISSION OF SYPHILIS BY VACCINATION.—The transmission of syphilis by vaccination has been observed from the earliest period of the present century, and has doubtless largely contributed to strengthen in some quarters resistance to the preservative from small pox. To refer to recent events, we may mention the great Hubner case, which in Germany had remained memorable among members of both the medical and the legal professions. On the 16th of June, 1852, thirteen children from one village were simultaneously vaccinated, with the vaccine matter alleged to have been affected with syphilis; now in some of the children obstinate ulcers broke out in the punctured spots, and genuine syphilitic eruptions made their appearance three months after, whereas others escaped uninjured. How was the affection of the former and the immunity of the latter to be accounted for?

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The explanation, says Mr. Viennois, is extremely easy. The lancet meets in the vaccine pustule with two kinds of fluid: 1. The vaccine virus. 2. An adventitious liquid, blood, when the point has penetrated beyond the cavity which contains the vaccine matter. Now, despite of the denial of Hunter and Mr. Ricord, the blood of persons laboring under constitutional syphilis undoubtedly possesses contagious properties, as it does in all virulent disorders, such as glanders, rabies, rot, small-pox, diphtheria, the plague, etc. Mr. Viennois relates five direct experiments performed with the blood of persons affected with secondaries, which confirm the data of analogy. Mr. Rollet, in his public lectures, demonstrated that syphilis is not transmitted by vaccine matter, but by its admixture with blood.

With regard to the symptoms observed in persons to whom syphilis has thus been communicated, they are of two orders, primary and secondary. The first appearance is invariably chancre of the arm, secondaries breaking out after a time only. When, on the contrary, latent syphilis manifests its presence under the influence of vaccinal fever, no primary ulcer is observable upon the

arm; but papular, vesicular, or pustular eruptions give evidence of the existence of syphilitic infection. * * * *

In all the cases of vaccinal syphilis which he relates, Mr. Vienne has been struck with the fact that the operation has always been performed from arm to arm, viz., under the most favorable circumstances for the inoculation of blood. In no instance has preserved vaccine matter been used, i. e., pure, unadulterated vaccine matter. Now, as before stated, pure vaccine virus, even taken from a person laboring under venereal affection, propagates vaccine only; and vaccinators, therefore, are cautioned against the addition of even the smallest particle of blood to the vaccine virus.—(*Championnière's Journal of Practical Medicine and Surgery.*)

11. UNION OF WOUNDS OF THE SCALP EFFECTED BY MEANS OF THE HAIR, INSTEAD OF SUTURES.—The hairs upon the edge of the wound, to the distance of one-sixteenth of an inch from the edges, are separated from the other hairs, combed straight, then cut off, the portion attached to the scalp about an inch long. These are to be laid upon the adhesive surface of a strip of adhesive plaster about two inches long, of any width you choose, according to the direction you carry the plaster that is to be attached to it. After the hair is pressed down upon the adhesive surface, another strip of the same width is to be applied over it, and of sufficient length to pass over the head to the skin beyond the hair—as upon the forehead, temples, or back of the ear—when it can be secured to the skin. This arrangement of the hair upon the adhesive plaster enables the surgeon to bring the edges of the wound in perfect coaptation without the slightest irritation. (*Dr. H. G. Davis in Amer. Medical Monthly.*)

12. ALUM LOZENGES FOR APHTHÆ AND PHARYNGO-LARYNGEAL ANGINA.—Instead of the alum gargles prescribed for pharyngolaryngeal angina, the aphony or dysphonia of professional singers, and for aphthæ of the mouth, whatever be their origin, Mr. Argenti exhibits with benefit the following lozenges:

R. Aluminis.

Tragacanthæ.

Sacchari.

Aquæ destill, lauro-cerasi, each, g. s. for lozenges weighing 7 grs., and containing each about 1-2 gr. of alum.

The well mixed mass is spread over a sheet of paper, distributed into lozenges, and dried at a mild heat. The result is a lozenge in which the astringent taste of the alum is tempered by the sweetening ingredients, and will keep for months. The lozenge is allowed to melt in the mouth. (*Championnière's Journal.*)

13. APOPLEXY IN A LAD SEVENTEEN YEARS OF AGE.—The boy came to his work as usual at 6 A. M. His employer soon after observed that he had no disposition to work, and on asking him the reason, he stated that he felt dull. The lad was advised to go into the yard and take the air, which failing to make him feel any better, he went to bed. About fifteen minutes after this he was discovered to be seemingly asleep, and he continued in this state till about twelve o'clock, when he was found dead.

Autopsy.—On making a section of the left hemisphere, a clot was discovered within an inch of the posterior extremity of the cerebrum, extending an inch and a half downward, forward and outward, opening into the lateral ventricle. Dr. Alonzo Clark, who reported the case for Dr. Beach, thinks Dr. B. told him at the time of the examination, that blood was found at the base and on the exterior of the organ. That being the case, it must have escaped in the direction of the vessels that entered into the ventricle. The existence of blood upon the surface, whether on the convexity or base, and not in the central portion, would be pretty good evidence of a blow having been inflicted. It was reported that no disease of the heart existed. (*American Medical Times.*)

14. STRANGULATED INGUINAL HERNIA SUCCESSFULLY TREATED BY DOSES OF ALUM.—The hernia had been strangulated for three days. Taxis was resorted to without success, and then the means usually recommended, as nauseants, warm baths, venesection, &c., were tried with the same result. I then had the patient placed on his hands and knees, and employed taxis, but with no better effect. I then had him placed in a vertical position with his feet upward, and once more employed taxis, but without effect. He was now sinking rapidly, having had stercoraceous vomiting several times.

It appearing that an operation was imperative, I asked for a consultation; and while awaiting the arrival of Dr. Miller, of Retreat, S. C., I gave the patient opium, with a double object. 1st. To support and keep him quiet. 2d. I had seen a case reported in which it had induced sufficient relaxation to permit the hernia to be reduced. I administered two-grain doses of opium every two hours, until three portions had been given. He then became stupid, and was allowed to remain perfectly quiet, with his thighs flexed, and warmly covered with blankets. He remained in this condition about an hour and twenty minutes. His respiration was then becoming slow and almost stertorony. He now made a sudden start to move, and I heard, very distinctly, a sharp slapping sound. Removing the blankets, I examined and found the tumor gone. The patient recovered. (*O. M. Doyle, M. D., of S. C., in Amer. Journal of the Medical Sciences.*)

15. CHLOROFORM IN STRANGULATED HERNIA.—Dr. Thomas Bryant, of Guy's Hospital, reports twelve cases (London Medical Review

for August, 1860,) in which, after the use of chloroform to complete anæsthesia, slight efforts by taxis were successful. The cases were all inguinal hernia, and some of them, at least, had resisted all other ordinary means. By the use of chloroform, meaning probably the relaxation of the complete anæsthetic condition, whether obtained by chloroform or ether, this writer thinks the operations for strangulated hernia might be greatly reduced in number, particularly if this means of reduction be resorted to early in the case. He seems to imply, and with justice, that the attempts which are made by taxis when the patients are under the influence of the anæsthetic, just prior to an operation, are far less likely to succeed than the same measures adopted at the commencement of the case, after simple taxis, aided by the position and the warm bath, had failed. The general deduction from the paper above quoted, and from the practice both here and abroad, appears to be, that anæsthetic relaxation should always be resorted to early in all cases of resisting strangulated hernia, and the earlier the better, after simple means have failed; and again, that a failure at reduction under anæsthetics later in a case, or just when an operation is to be performed, is not good evidence that the same condition early in the case would not have been successful. (*Dr. E. R. Squibb in American Medical Times.*)

16. COMPARATIVE PREVALENCE OF PHTHISIS.—In the lately published "Statistical Report on the Sickness and Mortality of the Army of the United States, from January, 1855, to January, 1860," there are some interesting observations upon the comparative prevalence of phthisis in different parts of the United States. According to the tables, included in the report, the smallest relative number of cases of phthisis occurred, for the most part, in dry and elevated regions of the country, as in the stations in Utah, New Mexico, and in the north-west, these being situated at an altitude of from one thousand to seven thousand feet above the sea level. The immunity from this disease was also quite marked in Florida, where the altitude does not exceed 30 or 40 feet, and where the stations are in the immediate vicinity of the sea. This can only be accounted for by the influence of malaria, and the equableness of the temperature—the thermometrical range not exceeding, in some years, 30 degrees. In all the regions referred to, with the exception of Florida, the air is dry, and the quantity of rain during the year considerably below the average. Fuchs and others in Europe, and Bowditch in New England, have collected data, which indicate conclusions similar to most of those of the Army Report—that Phthisis is most prevalent in low, wet situations and on the seaboard, and decreases with the increase of elevation to a certain point. There is certainly reason also to conclude that the malarial influence is antagonistic to a tubercular condition, thus

confirming the opinion of Wells on this point. (*Boston Medical & Surgical Journal*).

In the October number of the *British & Foreign Medico-Chirurgical Review*, Mr. Morgan publishes the results of extensive inquiries into the prevalence of pulmonary consumption in the Hebrides and along the Northwest coast of Scotland. The replies elicited from physicians settled there, testify with singular unanimity to the variety of tubercular consumption in those localities. Mr. Morgan finds other countries similarly situated physically and in every other way, but suffering far more from tubercular disease of the lungs. The majority of the natives are fishermen, living in a wild, equable, moist climate, deficient in sunshine. Their summers are cold enough for fires, and their winters are too warm for continued snow and ice. They live on meal, potatoes, milk and fish, and at certain seasons almost wholly on oat cake and porridge. The huts or cottages in which they live are of very rude construction, yet the system of ventilation is very efficient. Mr. Morgan thinks the peat-smoke which they inhale has some virtue as a prophylactic. (*N. A. Medico-Chirurgical Review*).

Mr. de Pietra-Santa read to the French Academy of Medicine, an abstract of his report to the Government, embodying the results of a scientific mission to Algeria, consisting in remarks on the climate of that colony, with respect to its influence on chronic thoracic diseases. The report describes Algeria as occupying an exact medium between temperate and tropical climates.

"We may boldly assert," says the author, "that the climate is most favorable to invalids, and that it combines advantages seldom to be met with on the shores of the Mediterranean, and usually sought for in Madeira."

Among the causes of Phthisis in Algiers, he points out the low and damp habitations, frequently foul and ill-ventilated, the abuse of the Moorish bath, the increased consumption of salt meat, the influence of the dust of the macadamized roads, the propagation of neglected or empirically treated venereal diseases, etc.

He concludes with the following propositions:

1. The atmospheric conditions of the city of Algiers are highly favorable to persons suffering from disease of the chest in general, and especially from consumption.

2. Tuberculosis exists at Algiers both among foreigners and natives, but is far less frequent than in France, or on the shores of the Mediterranean.

3. The increased frequency of phthisis among the natives (Arabs, Blacks, Moors and Jews) is referable to exceptional circumstances, but is not traceable to the climate.

4. The favorable influence of the Algerine climate is peculiarly observable in checking the predisposition to thoracic disease, or in contending with the symptoms of the first stage of pulmonary consumption.

5. This beneficial influence is doubtful in the stage of consolidation, especially when the general symptoms predominate over the local manifestations of the malady.

6. It is fatal in the third stage, when softening and disorganization of the pulmonary structure are present. (*Championnière's Journal of Practical Medicine and Surgery.*)

17. SCURVY.—Assistant Surgeon Johns, U. S. A., allowing the primary cause of scurvy to be the want of fresh vegetable matter—which may of itself be sufficient in certain cases for its development—says that any depressing cause, as exposure to cold, fatigue, bad ventilation and bad food, and particularly too great a preponderance of salted meat, may act as the exciting cause.

With respect to treatment, he finds citric acid and potash to be inefficient remedies, the first step being to procure fresh vegetable matter. He advises stimulant and tonic remedies, fresh air and nutritious food. In other words, the object is to supply those materials, the want of which has caused the disease.

The influence of salted meat as a depressant, he attributes to the loss of *kreatine* , dissolved out by the brine, and which, as Dr. Ure remarks, has a singular connection with muscular energy. The fact that the Indians and voyageurs rarely suffer from this affection, he regards as partly owing to their use of *jerked* , instead of *salted* meat—the former simply losing its watery portions in the process of drying, while the latter loses one of its most essential principles. In the treatment, he found desiccated vegetables unavailing, and was forced, when potatoes, the best antiscorbutic, were not to be had, to depend often upon the juice of the cactus. The wild artichoke, wild celery and water cresses, were also found admirable remedies. He prescribed the cactus juice in half pint doses mixed with a gill of whisky. In alluding to the total inefficacy of citric acid, he instances the fact of the existence of scurvy amongst the lime groves and at Fort Dallas, Florida, where the parade was covered with lemons, limes and oranges. That mental influences may play a part in the development of this disease, seems apparent from the fact of its absence in Utah, where everything but a depressed condition of the mind favored its production. The excitement attending the march through a new country, with the prospect of a fight with the Saints, contributed not a little to that healthful state of body incompatible with the development of this affection. (*Statistics and Mortality of the U. S. Army—Boston Med. and Surg. Journal.*)

18. CONVERSION OF CYSTICERCUS CELLULOSUS INTO TÆNIA SOLIUM.—Some time since, Dr. Küchenmeister, having fed a delinquent with measly pork three days prior to his death, found several young *tæniæ* attached to the intestinal canal, and Leuckert has since related a case of death from the same cause. But as there are

still incredulous persons, the author resolved to institute other experiments on the person of a criminal condemned to death. The pork containing the cysticerci was administered on November 24, 1859, and January 18, 1860, and the post-mortem was made on March 31. Almost fifty per cent of the cysticerci were found in the condition of tape-worms. His general conclusions are: 1. The numbers of the *tæniæ* which were found must convince the most incredulous of the reality of the conversion. 2. That the *tæniæ* really resulted from the cysticerci administered, is seen from so many being still in an immature state. 3. The presence of so many examples delayed the development. In ordinary cases a quarter of a year would suffice for maturity to be attained. 4. Even under the most favorable circumstances, when the cysticerci are freed of their envelopes, one-half undergo no conversion, and swallowed unseparated the proportion would be still less. 5. Raw, measly pork may be exposed to considerable cold without the cysticerci losing their vitality. 6. In weather which is not hot enough to induce early putrefaction, the susceptibility of development can be retained for at least eight days, and probably for a longer period after the death of the pig. 7. The greater the number of the raw cysticerci that are consumed, the greater the number of the *tæniæ* which will be found. In one case in which such food was largely consumed, thirty-three portions of heads were found. 8. In persons leading a quiet life, avoiding all excess in eating and drinking, and partaking of a uniform diet, even many of these worms may not give rise to any disturbances in the system. This prisoner, between the time of eating the cysticerci and his execution, was remarkably well in health, a considerable increase in the deposit of fat taking place. 9. Notwithstanding the quantity of separate proglottides at the lower portion of the intestinal canal, the muscles contained no cysticerci. This man, however, had no vomiting, and none of the embryos of the *tæniæ* entered the stomach, which, according to the author's investigations, is a necessary preliminary to the appearance of the cysticercus in man. 10. The worms were found very firmly adherent in part to the free surface of the intestine, or at the sides of the *valvulæ conniventes*, and in part buried between these last. They could only be detached with great difficulty, and when the heads were loosened from one portion of the intestine, they at once fastened to another with just as much force. 11. This explains why a means, which, in some cases, acts very efficaciously in expelling the worms, in others proves of less avail. Thus, when the head is attached to the free surface of the intestine, or of the *valvulæ*, sharp purgatives will detach it; but when placed at the base of the *valvulæ*, the effect of the purgatives may be only to bury it still deeper, and when the body is expelled without the head, the worm may be reproduced. When the head of the worm has become detached from the intestine, we must not allow it time

to reattach itself; and those medicinal agents alone, which induce powerful persistaltic action, and are accompanied by abundant secretion, are to be relied upon for procuring a radical cure. 12. Finally, the author replies to the reproaches which have been directed against him for his experimental feeding of condemned criminals. He maintains that, as a curable disease only had been produced, the man, even in the event of his having been pardoned, would have sustained no permanent mischief. He declared that, by employing active purgation by means of pomegranite extract, prepared as directed in his work on Parasites, he has never failed in expelling the worm. (*Med. Times and Gazette, from Deutsche Klinik.*)

19. REMARKS ON FISH POISONS. *By Dr. Reil.* The observations made by the author on this subject are, essentially, the following:

Fish may prove injurious to health either in the preserved condition, that is, salted, pickled, or dried, or in the fresh state. Their poisonous properties in the simple or fresh state may be owing to the following circumstances: 1. They may themselves under all circumstances be poisoned, as has been maintained in regard to several species of fishes, although the fact requires further proofs. 2. They may under certain circumstances acquire poisonous properties, as for instance, by diseases peculiar to them, or at certain seasons of the year, or, as is known of the *Cyprius Barba* and *Cyprius Carpio*, at the spawning season. 3. Poisonous substances, such as *Hydrocarpus Inebrians*, *Menispermum Coculum*, *Delphinium Staphysagria*, etc., may have been used in catching them, or they may have been poisoned in another manner—for instance, by acids and metallic salts, which contaminate the water in the neighborhood of factories. 4. Their injurious properties may be owing to commencing putrefaction.

The different modes of preserving fish give rise to chemical processes which cause the formation of poisonous matters. Injurious consequences from eating salted fish, particularly salted sturgeon, are frequently observed in Russia.

But also codfish, and the smaller kinds of preserved fish, have given rise to symptoms of poisoning. Cases of poisoning from herrings are perhaps the rarest, and this is probably owing to the fact that the time for catching herrings is limited to a certain season, that they are salted without delay when still at sea, and that they are more rapidly consumed.

The character of the poison generated in preserved fish is still doubtful; at first the poisonous substance was thought to be of cryptogamous growth, or a fatty acid; more recently Schlossberger advanced the view that the propylamin (trimethylamin) contained in the brine is the poison in question, but this opinion has been refuted by the experiments of Buchheim. (*Casper's Vierteljahrsschrift*, 1860.)

20. **HYPOPHOSPHITES OF LIME AND SODA IN PHTHISIS.**—Dr. Richard Quain, and Dr. Hill, of the Brompton Hospital for consumption, gave these salts an apparently fair and impartial trial, in twenty-two cases of phthisis, taking Dr. Churchill's statements as the headings for their observations, and continuing the treatment during a period of one to six months. After summing up the results, they compare these results with the records of an equal number of cases taken from the hospital books, and which had been treated in the ordinary way. The conclusions they arrived at are very definitely stated to be that the hypophosphites are quite useless at best, but worse than useless when they are permitted to supersede or supplant ordinary well-directed methods of treatment. These results are quite in accordance with a majority of the opinions of those practitioners whom the writer has heard speak of them after trial. *Dr. Squibb in American Med. Times.*)

21. **DIPHTHERIC PARALYSIS.**—In a discussion on the subject of diphtheric paralysis in the Société des Hôpitaux, Nov. 14th, 1860, Mr. Trousseau expressed the opinion that "diphtheric paralysis presented characters too well defined to permit it to be confounded with paralysis produced by other pathological poisons. We translate his remarks as reported in the Gazette Hebdomadaire of Nov. 16th. "Mr. Trousseau called attention to the cases of paralysis, observed under the action of most intoxicating agents introduced into the system, and to the fact that, the better the resulting nervous disorders were studied, the more manifest it became that they had their special type corresponding to the cause which produced them. Passing over lead palsy, so well known, Mr. Trousseau mentioned the paralysis produced by Sulphuret of Carbon, a disorder well investigated by Mr. Delpech, and which is characterized by disorders of vision, of audition, of motion, of general sensation, but especially, by a complete abolition of the genital sense, a phenomenon well recognized in young subjects before known to possess very different dispositions. The special paralysis produced by the vapors of charcoal may also be cited, for a knowledge of which we are indebted to Mr. Bourdon. Mr. Trousseau calls attention also to the curious cases of intoxication by animal poisons, reported in the work of Graves.

Sailors making use of certain special kinds of food, as certain fish, and particularly certain kinds of conger-eel, have suffered from very persistent and very rebellious paralysis of the bladder and intestines; Mr. Trousseau had seen an analogous case in a female, who had eaten freely of lobsters.

Passing to the subject of the pathological intoxications proper, Mr. Trousseau recognizes the frequency of paralysis, consequent upon Typhoid Fever. The frequent abolition of the senses, and the intelligence is but a paralytic nervous disorder. Erysipelas, small pox, and other septic affections produce analogous accidents.

Reaching, finally, the subject of Diphtheria, an affection the specific character of which becomes more and more evident to all in proportion as it is better studied, Mr. Trousseau declares that with Messrs. Blache, Maingault and See, he has been led by observation to admit the existence of *diphtheric paralyses*. Their type is so marked that the very appearance of the phenomena permits an instant recognition of the cause; not by an isolated sign but by a *symptomatic phrase* which speaks loud enough to denote its specific origin. It is now well recognized, that paralysis is seen to follow a membranous angina, a well marked diphtheria. Mr. Guéneau de Mussy, has reported a case following cutaneous diphtheria. When this sort of paralysis is observed with attention, in ninety cases out of a hundred, the specific cause, diphtheria, can be recognized. With regard to paralysis of different origin, Mr. Trousseau does not express himself positively, but he recognizes that there are exceptional cases which reproduce an analogous type. He is now watching a case of generalized paralysis, like that produced by diphtheria, in a patient who has had only a herpetic angina. Mr. Gros has shown him two cases of paralysis which had been preceded by simple angina only, without plastic exudation. He had himself reported long ago, a case of paralysis of the velum palati without well marked diphtheria.

To account for these exceptional cases, Mr. Trousseau appeals to what is observed in other epidemic diseases. When scarlatina rages in a family, and four or five persons have been affected, and we see the sixth taken with anasarca and bloody urine, without presenting any eruption or other sign of scarlet fever, to the end of the epidemic, when we see this same person present afterwards a sort of immunity against other epidemics of scarlatina, we do not hesitate to say, that this person has had an abortive scarlatina, without eruption, translated only by a symptomatic phrase. If, in an epidemic of typhoid fever, in a school, for example, along with a great number of well marked cases, we see a few youths complaining only of headache, epistaxis, diarrhoea, a set of mild symptoms, which do not last a week, and afterwards these youths present a marked immunity against typhoid fever, we willingly admit that they have been affected with this disease. Yellow fever presents, according to Mr. Dutroulau, analogous cases. Diphtheria presents also these imperfect manifestations. Diphtheric paralysis has been studied but a short time, and it is probable that the frequency of this accident has strangely increased within the last few years, for observers would without doubt have been struck with this complication, which is sometimes mortal. We are now far from the type observed by Bretonneau, from the type of 1826 as recorded in the thesis of Mr. Ferrand, from those epidemics of diphtheria observed by Mr. Trousseau himself, when death occurred in almost all the cases. In the reports now addressed to the Academy of Medicine, from all parts of France,

we see diphtheria raging in one family, fatal to two or three persons, whilst others will have only rudimentary diphtherias which will recover without treatment.

Can we not admit that very simple anginas are nevertheless manifestations of diphtheria, just as the benign scarlatinas, above mentioned, were manifestations of scarlatina? We can thus explain the consequences of certain sore throats, apparently benign.

With regard to diphtheric paralysis, Mr. Trousseau in conclusion, recognizes in them such decided characteristics, that they cannot be confounded with the paralysis produced by other pathological poisons.

EDITORIAL.

TREATMENT OF PNEUMONIA.—Nearly twenty years ago, Braithwaite used the following language in regard to pneumonia: "Blood-letting, tartarized antimony, and mercury, are stated by Dr. Watson to be the three great remedies in this dangerous disease; and this opinion accords with that of most other eminent men." Let us examine the evidence on the subject at the present day.

The pathology of pneumonia was perhaps as well understood twenty years ago as it is now. Its prognosis and indications were certainly mistaken. No well-informed and judicious practitioner would now think of calling it a "dangerous disease," except the few (learned, and in many respects, judicious,) who are constituted like Dr. Watson, incapable of giving up their early faith in calomel and bleeding. We now know that simple, uncomplicated pneumonia is very manageable, and has a strong tendency to recover. The fatal cases which occur under careful hygienic treatment, are of double pneumonia, or of pneumonia complicated or following some other disease.

In the matter of treatment, we have on the one hand those who still advocate bleeding, calomel and tartar emetic; and on the other, those who believe in the virtue of avoiding active interference, especially all active depletion. If the more moderate treatment could show results only as good as the use of calomel and bleeding has furnished, it would be a sufficiently strong argument in its favor—for who would be justified in resorting to such remedies unnecessarily? But the truth is, that the mild and sustaining course can be shown to have much the advantage. Dr. Flint said in 1855, that he habitually treated pneumonia with anodynes and stimulants, according to the circumstances, and he had never had a fatal case of single, uncomplicated pneumonia. Dr. Hunt, of the Buffalo Medical Journal, said that in ten years' practice, including a large number of cases of pneumonia, he had never bled a case of it, and could not recall a case where he regretted the omission. His only fatal cases had been two: A man of seventy-three years of age, with typhoid tendencies throughout, and an elderly woman, with double pneumonia, and not a proper subject

for depletion under any circumstances. The question, however, is not merely in regard to bleeding, which is disused by many physicians who still think active treatment (with mercurials or antimony, at least,) indispensable. The subject has been fully and ably set forth by Dr. Hughes Bennett of Edinboro,' in his late Clinical Lectures, and we will simply present to our readers his tables, with others which we have been able to discover.

In these it will be seen that a sustaining treatment, with anodyne, or stimulants, or both, according to the necessities of the case or that even a course which includes diet and rest alone, is more favorable, both as to the duration and final result of pneumonia, than the use of any or all of the active depressing measures already alluded to. No tabulated results of treatment can govern as absolutely in regard to the therapeutic course in every new case. Cases now and then occur, with high fever and severe pain, where great relief and doubtless ultimate benefit are produced by venesection. But the results to be presented will show that a plan of treatment in which bleeding, mercury and antimony are left out, presents decidedly more favorable results than where they are employed. It was formerly shown by several writers on pneumonia that the cases treated with venesection were shorter than those in which it was omitted, but the other cases used for the comparison were subjected to the treatment by antimony or mercurials. Dr. Bennett's cases show that the omission of all these remedies gives not only a much larger proportion of recoveries, but shortens very decidedly the duration of the disease.

CASES TREATED ANTIPHLOGISTICALLY.					CASES TREATED OTHERWISE.				
	No. Cases.	D'd.	Per Cent.	Treatment.		No. Cases.	D'd.	Per Cent.	Treatment.
Edinboro' Infirmary, from 1839 to 1849,	648	222	34	Actively antiphlogistic.	Edinboro' Infirmary, from 1850 to 1857,	78	3	3 4-5	Salines during febrile excitement — then beef tea and nutrients — wine if necessary. Diuretics at approach of crisis.
Louis at La Charite,	78	28	35 7-8	Bleeding in first 9 days.					
Louis at La Pittee,	29	4	13 3-4	Bleeding in first 4 days.					
Masori in Milan,	648	143	22 2-3	Large doses of tartar emetic.	Skoda,	44	3	6 4-5	Moderate diuretics in most cases.
	1403	397	28 1-3		Varentrapp, Schmidt, and others.	193	9	4 1-4	Chloroform in inhalation.
					Diet of Cracon,	940	72	7 2-3	Diet and rest.
						1255	87	6 9-10	

Thus we have 6 9-10 per cent. of deaths under the moderate treatment, against 28 1-3 per cent. under the active treatment. But in the several modern methods there is a choice, and that of Dr. Bennett has the advantage. The points considered by him of the greatest importance are, to avoid everything which will weaken the vital powers, and to sustain them by suitable nutrition, so as to further the natural progress of the disease. But we would earnestly recommend the perusal of his book to all who have not already examined it—as the subject of the treatment of inflammation is there very fully and admirably considered.

As we are writing, an interesting article on pneumonia from Dr. Flint's pen, in the January number of the American Journal of the Medical Sciences, comes under our notice, in which substantially the same views expressed by him in 1855 are reiterated after five years further experience. His paper is based on 133 cases, principally in hospital practice, with results similar to those already stated from his experience. Dr. Flint's treatment is almost purely a treatment of symptoms as they arise. He thinks that tartrate of antimony in *small* doses, and discontinued when nausea arises, has a favorable effect on the severity of the disease; that opium in full doses produces marked improvement in the symptoms, in some cases, and "appears also to have affected favorably the progress of the disease, diminishing its fatality, and abridging slightly its duration." He employs alcoholic stimulants whenever they are indicated by the general condition of the patient, without any regard to the period of the disease, or the condition of the lung. In fine, his treatment is that which meets with the approbation of the most reliable practitioners at the present day, and which we can heartily endorse:—"expectant, using this term, not in the sense in which it is often used, viz., to denote the absence of all active treatment, but in its proper sense as denoting the application of remedies, not to the disease *per se*, but to symptoms and circumstances incidental to the disease in individual cases."

QUACKERY consists more in making the people the tribunal of judgment of the art of medicine. Thompsonism fostered a prejudice against mineral medicines, by a timely birth when the world was salivated; and the ignorant, excusably terrified by the distressing treatment they were subjected to, joyfully took refuge with the no-mineral men. Hahnemannism as well addressed itself to popular prejudice and fancy. Its absurdities were a recommendation—for ignorant people place most reliance on things so contrary to all their usual notions as to be beyond explanation or rational belief. But no doubt its first recommendation was the agreeable form of medication; and those whose credulity prepared them for the reception of any statements that were only asserted boldly enough, easily adopted a novelty so attractive in form.

There is a question which has produced serious difficulty, or at least a considerable degree of perplexity, in all Medical Colleges. In every class there are men who, after having passed the examination, and received the degree of Doctor, establish themselves as Homœopathists. They have complied with all the requirements, the three years' study with a respectable physician, and the attendance on lectures, and have passed a satisfactory examination. After having shown themselves acquainted with therapeutic principles, and having had good examples of medical practice, they go out and deliberately adopt the name of Homœopathists. It is impossible to say why they do it; some few are doubtless weak enough to be real converts—to what, it would difficult to say, in the present form of that plausible quackery. Most of them are probably men who have no respect for scientific truth, but take that course because it will pay best; and when they have acquired a competency, we sometimes find them trying to become respectable again, by dropping the title they had assumed, and courting the association of honorable medical men. What can a medical college do? If the candidates for a doctor's degree prove themselves fitted by a

rigorous examination, the government can go no further. In this State, the State Medical Society gives no countenance to an endeavor to avoid fellowship with these pretensions quacks, for the Society itself numbers many of them.

We wish to put the question of this quackery on its true ground. All other quacks, whether Thompsonians, purgative-pill doctors or mesmerists, ask no fellowship with us; but the Homœopathists take our diplomas and enter our societies. It is obvious why they come to us for their education: they intend to practice *medicine*. Homœopathy is only a myth. There was a time when the disciples of Hahnemann practised with sugar of milk, and water strengthened by repeated shakes. But we all know that the treatment of the imagination did not sustain them many years, and that real drugs in appreciable doses have long since taken the place of their aerial nothings. They are now so unlucky sometimes as to salivate; for the nice concealment of a preparation of mercury will not alter its nature. And patients have discovered too late that fatal doses of aconite can be dealt out by ignorant homœopathic hands.

Homœopathy, therefore, is at present only a name. It comprehends no longer infinitesimal doses. Its doctrine of *similiar similibus curantur* was always absurd and contrary to facts, except in isolated instances well known to regular practice, and not authorizing a general application. And whether it still derives all diseases from syphilis and the itch, we know not. It is a name—under cover of which its followers treat diseases in the manner they think best. If they are learned men, they medicate on sound therapeutic principles; if half-educated and ignorant, their treatment is like that of men of their own grade in the regular medical profession.

With homœopathy or the society of homœopathists we have nothing to do in our present appeal; only with that portion of them who have received regular medical instruction, and are armed with the degrees of honorable institutions.

We wish to point out exactly where, in our opinion, the quackery lies. It is in assuming the name. The adoption of the name is a direct appeal to the prejudices of the community. For we have shown that the name is all that remains. It is the very essence of quackery to make the public the judge of the course of treatment a medical man shall pursue, to cater to prejudices in favor of one class or form of medicines or another. It is not a whit better to advertise oneself a homœopathist, than an administrator of Brandreth's pills or Radway's Ready Relief. If a medical education fits one for anything, it qualifies him to decide upon the plan of treatment in a medical case. If his education and his observation have led him to place confidence in lobelia for certain purposes, or in arnica or pulsatilla, he is at liberty to use them, or anything else in the whole range of the *materia medica*. But the physician is the judge of the treatment and not the patient. When a man gets business on the strength of advertising himself a homœopathist, he makes his patients the judge of the treatment. If he does not administer medicine in homœopathic strength and manner, then his whole life is a lie. We believe it can be proved that the homœopathists who have the diplomas of our Colleges, as a general rule, treat their patients actively and according to correct principles when it suits their purposes; and if the name they bear has any longer a significance, it is one that does not include them.

We are not aware that it is in the power of Colleges to take any steps to remedy the present state of things or prevent its continuance. It rests with the State Societies. All that medical teachers can do, is to inculcate honorable principles, and to distinguish in their instruction on all occasions scientific truthfulness from charlatanism.

The spirit of quackery is sometimes met with among men nominally regular, in their quietly encouraging or professing a reputation for the exclusive possession of some very successful mode of treatment. No matter whether it has the imputed virtue or not—the reputation is enough for their purposes. And this is just where the homœopaths stand; it is the name alone which has any potency. On this ground we cannot appeal to them to come out of their unfortunate position; for had they had wisdom and honor to appeal to, they had never fallen into that slough; but we call upon State Medical Societies—especially the Massachusetts Medical Society, as most remiss, to take steps as soon as may be to remedy the evil.

We do not recognize the right of an associated body to regulate the therapeutics of its members, but we do regard it as not only the right, but the duty of any Society to discountenance false pretences or dishonorable dealings among them.

BANDAGING IN RHEUMATISM.—There is perhaps no disease in which a greater variety of remedial measures has been earnestly advocated than acute articular rheumatism. The medical world is at present nearly unanimous on the employment of alkalies and the neutral salts of potassa in this affection. There are no series of cases hitherto published which have presented better results than those which have been treated exclusively by this method, whether considered in regard to their duration or in the tendency to concomitant cardiac inflammation—such as have been reported by Drs. Garrod and Barlow, of London, and the late Dr. Swett of New York. In Dr. Swett's cases, treated in the New York Hospital, "the average date of commencing improvement was seven days after the commencement of treatment, coinciding in the large majority of the cases, with the commencing alkalinity of the urine. The improvement was invariably permanent, and, after the urine was rendered alkaline, no new articulations were affected, as a general rule." Our own experience has fully confirmed these statements.

There is a very valuable adjuvant to the medicinal treatment of acute rheumatism, which we have employed for the last fifteen years with great advantage in all cases, and that is *bandaging*. The plan is to envelop the affected limb with a roller, firmly and evenly applied. If the ankle is first affected, it is applied from the toes half way up the leg; if the knee becomes involved, the roller is continued over it well up on the thigh; and so with the upper extremities. The application is of course painful, but the pain subsides almost immediately, and never again reaches the degree of acuteness which it had before. In the majority of cases, it does not afterwards exceed a moderate degree of soreness; the patient is able to move or be moved in bed without crying out, and can usually be comfortable enough to require no opiates, or at most a dose of opium at night. The inflammation steadily subsides under the bandages,

and where these have been retained until full convalescence, it is rare to find any renewal of it in a joint from which it has once disappeared. It will therefore be seen that the tendency to a sequel of chronic subacute rheumatism is less than in the average number of cases as ordinarily treated. And we believe that the danger of a metastasis of rheumatism to the heart is also much less than in other cases. Such, at all events, has been our personal experience. We are unable to say with whom this method originated. We have always advocated it in lecturing on rheumatism, and would now ask the readers of the JOURNAL to try it, and give us the benefit of their experience hereafter.

The reduction of hernia by anesthetics, which forms the subject of some selections in the present number of the JOURNAL, leads us to call attention to a similar course of treatment in that class of cases which includes bilious colic, (so called,) and all other occlusions, whether from intussusception, strangulation or whatever cause. We know of no way in which these several conditions can be discriminated during life; every internal strangulation resembles for some hours or days at the commencement a simple "bilious colic." There is in all cases an occlusion, in some removable, in others not. But we believe that all obstructions are more likely to be removed by sedatives than purgatives, which latter are quite as apt to increase the difficulty as to lessen it. And in this opinion, a large part of the medical profession are coming to agree.

In regard to the worthlessness of "the hypophosphites" in phthisis, we are happy to be able to present competent testimony in our selections. For looking upon this preparation as in all probability likely to prove merely a delusion to consumptives, we have purposely avoided employing it until its therapeutic value should have been decided, as it has now been thoroughly tried in the Brompton Hospital. We shall take occasion, at some future time, to express our views of the facility with which physicians too generally lend their countenance to the vendors of specifics, whether the hypophosphites, the "chemical food" or Bourbon whiskey. The influence of the profession is at present very much abused, owing to the good nature, or the interested views of many of its members, who, from the one cause or the other, give their aid to these various mercantile enterprises, for such and nothing else, can the general introduction of the articles mentioned, be called.

MEDICAL NEWS.

DIPHTHERIA.—The editor of the *British American Journal* doubts the existence of diphtheria in any part of Canada as yet. It is prevailing fatally in Tompkins and the adjacent counties of central New York; and also to some extent in Otsego, Westchester, and Rockland. It has never yet prevailed extensively in the city of New York; has been among the causes of death in the weekly reports throughout the greater part of 1860, but only in a small proportion. Very few physicians in Boston have seen the disease at all. It is prevalent to a serious extent in many localities in Northern Ohio. Dr. James E. Reeves of Fairmount, Marion Co., Va., says that it is prevailing extensively in many portions of Virginia. In the counties of Preston, Taylor, Barbour, Randolph, Marion, and Monongahela, the disease has prevailed for the last two

years; and in some of the neighborhoods of these counties during the period the mortality has been appalling. Dr. Edwin M. Snow, City Registrar of Providence, R. I., says in his Monthly Report for November: "Diphtheria is quite prevalent in all parts of the city, but of a very mild character. The disease seems to be more fatal at present in the neighboring towns, than in the city. This is the third Autumn in which it has pursued the same course in this city; proving extremely virulent and fatal in the first few cases, and afterwards becoming mild, and causing very few deaths in a great number of cases." In Dr. Snow's Report on mortality in Providence for the year 1860, there are 25 cases of diphtheria, while in 1859 there were 17, and in 1858 there were 5 cases. On the whole, it is apparent that there is not as yet any very grave or extensive epidemic of the disease in the United States, unless that in Virginia must be excepted.

MASS. MED. BENEVOLENT SOCIETY.—This society, which was formed in 1857, in pursuance of a suggestion of Dr. Morland's, in the Boston Med. and Surg. Journal, for the formation of an association in aid of poor and infirm, or disabled practitioners, dined together at Young's Hotel in Boston, on Saturday, Dec. 29th. The society deserves the hearty encouragement of the medical profession, and we trust that it will receive large accessions to its numbers from every part of the commonwealth. Whether appealing to self-interest, humanity, or professional pride—for it does appeal to all of these sentiments—it offers strong inducements for universal support.

REMOVAL OF DR. MORIARTY.—This gentleman, though a city officer, is known and respected throughout the state; and many of our readers will learn with regret that he has been removed from the Superintendency of the House of Industry, Deer Island, Boston. The Boston Medical and Surgical Journal says: "The fact that Dr. Moriarty is to be retained as physician of the Institution, does not relieve the city government from the imputation of having done a gross injustice by placing an old and most efficient officer in a false position before the public. After twelve years' service, alike honorable to himself and to the city, without notice or warning, he suddenly receives information that he has been superseded, leaving an impression on the public mind which a full and frank explanation only can efface."

HOMŒOPATHY AT A DISCOUNT.—We see it stated that at the opening of the session in one of the homœopathic colleges recently chartered, it was found that only three students were in attendance, and neither of them was prepared to pay any fees! Whereupon, the Faculty dissolved, the dose being to infinitesimal, notwithstanding their master, the illustrious Hahnemann, declares it is "impossible that the dose can be too small!"—*American Medical Gazette.*

THE ACADEMY OF MEDICINE, at its stated meeting on Wednesday, January 16th, declared its adherence to the letter and spirit of the "Code of Ethics," and by an almost unanimous vote has absolutely prohibited the practice of reporting its proceedings in the secular papers.—(*American Medical Times.*)

TORREY'S HERBARIUM.—Prof. Torrey has presented to Columbia College, his immense herbarium, the fruit of forty years' assiduous labor, together with his valuable botanical library. The herbarium is especially rich in North American plants, as it contains full sets of nearly all the collections made by the ex-

ploring expeditions of the United States. The herbarium is also authority for the plants described in the Flora of North America, by Torrey and Gray. The Floras of Europe, Asia, the Cape of Good Hope, Australia, and many other parts of the world, are largely represented by collections named by the highest authority.—(*American Medical Times*.)

NEW WORK BY PROF. S. D. GROSS.—*The N. A. Medico-chirurgical Review* for January, has the following: The senior editor of the Review begs leave to announce to his professional brethren that he is now engaged upon the composition of a systematic Treatise on the Injuries and Surgical Diseases of the Scalp, Skull and Brain and its Membranes. He earnestly and respectfully requests their coöperation in its construction, by furnishing him with such cases and practical reflections as may have arisen in the course of their experience. Communications should be sent in at an early day—to S. D. Gross, M. D., Prof. of Surgery, Jefferson Med. College, Philadelphia.

FISKE FUND ESSAY.—*The American Journal of the Medical Sciences* for January, publishes a learned essay on Diphtheria, by D. D. Slade, M. D., of Boston, which received the Fiske Fund Prize for 1860.

THE BOSTON 'SANITARY ASSOCIATION held its first Annual Meeting in the Representatives' Hall on Thursday, January 17th, when an address was delivered by Dr. Edward Jarvis of Dorchester. We shall take occasion to enter into the very important objects of this Association in our next number.

WE HAVE received a new work entitled, "Diphtheria, by Edward Headlam Greenhow, Fellow of the Royal College of Physicians, Physician to the Western General Dispensary, and Lecturer on Public Health at St. Thomas Hospital, New York, Bailliere Bros. 440 Broadway, 1861." This work is designed to meet a wide spread demand, "for a recent and practical treatise on this disease. The author is recognized as one of the ablest writers on epidemic diseases." We have only had time to glance at a few of the chapters, and must reserve comment for a future number. The work is an octavo of 160 pages, and costs \$1.25.

CAMPLIN ON DIABETES.—This work is re-printed from the thirty-eighth volume of the "Medico-Chirurgical Transactions," and is valuable as a record of the experience of a physician in the symptoms and management of his own case. It gives testimony to the superlative value of hygienic measures in this, as in other affections; to the inefficiency of medication when unaccompanied by the endeavor to harmonize the physiological influences to the changed demands of the system, resulting from disease. It proves the curability of certain forms of the disease, under proper hygienic treatment.

JOURNALS RECEIVED IN EXCHANGE.—*The N. A. Medico-Chirurgical Review*, edited by Drs. S. D. Gross, T. G. Richardson and S. W. Gross, Philadelphia. *The Cincinnati Lancet and Observer*, edited by Drs. Edward B. Stevens, John A. Murphy and G. C. E. Weber, Cincinnati, Ohio. *The American Medical*

Times, edited by Dr. Stephen Smith, New York. The Boston Medical and Surgical Journal, edited by Drs. F. E. Oliver and Calvin Ellis, Boston. Chicago Medical Examiner, edited by N. S. Davis, M. D.

THE PHYSICIAN'S POCKET MEMORANDUM FOR 1861.—By C. H. Cleaveland, M. D., Cincinnati, Ohio. This is one of those Visiting Lists, which have become indispensable to medical men since their first introduction several years ago. It includes a day-book for sixty patients, besides a large space for miscellaneous memoranda. It contains also a classified list of medicines with their doses, a very full table of abbreviations of medical Latin, the principal poisons and their antidotes—in fine, many things which we should desire to have in mind, but might often find it convenient to have in the pocket.

BOOKS AND PAMPHLETS RECEIVED.—Medical Statistics of United States Army from 1855 to 1859. Diphtheria by Edward Headlam Greenhow, M. D; Bailliere Bros., New York, 1861. On Diabetes and its Successful Treatment, by John M. Camplin, M. D., F. L. S. New York, S. S. & W. Wood, 1861.—Proceedings of the Academy of Med. Sciences, of Philadelphia, for 1861.—Contributions to the Anatomy of the Spinal Cord, by Dr. J. B. Trask.—By-laws of the Mass. Med. Society.—Maine Insane Hospital Reports for 1860.—Catalogue of Medical Department of Harvard University.

ERRATUM.—On page 80, Art. 14, for "Strangulated Inguinal Hernia successfully treated by Doses of Alum," read, "Strangulated Inguinal Hernia successfully treated by Doses of Opium."

THE
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EDITED BY

WM. HENRY THAYER, M. D., AND R. CRESSON STILES, M. D.

"Ore trahit quodcunque potest atque addit acervo."

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No. 3.

ORIGINAL COMMUNICATIONS.

ART. VI.—*Lateral Dislocation of Knee Joint.* By SAMUEL WEBBER, M. D., Charlestown, N. H.

I was called in haste to a neighbor, a lady about fifty, short of stature, but somewhat fleshy, who was said to have hurt her knee badly, in jumping from a wagon hastily, and alighting on shelving ground. I found her on the bed, with her leg extended, suffering severe pain. On examination, I found a great projection of the heads of the tibia and fibula on the outer side of the limb, and a corresponding projection of the condyle of the femur on the inner side, while the patella, in a state of considerable tension, was drawn obliquely across the joint. There was no visible bruise, and passive flexion of the joint to a moderate extent could be performed smoothly, though with considerable increase of pain. In short, it was a lateral semi-dislocation outward of the head of the tibia. In order to reduce it, having bent the lower part of the limb about 25° or 30° , while an assistant supported the thigh in that raised position, I grasped the small of the ankle firmly with my right hand, and the upper part of the knee-joint with my left, so as to make a pressure both on the projecting condyle on the inner side, and the projecting head of the tibia on the outer; then making a steady but strong traction with my right hand, I endeavored, by a turn of my wrist inwards, to cant the head of the

tibia so as to pass back the dividing ridge of its double socket beneath the outer condyle, assisting this motion by a strong pressure on the head itself with my left hand. The attempt succeeded. I could feel the ridge gently gliding under the rounded surface of the condyle, accompanied by a slight elongation of the limb, and then subside suddenly into its appropriate hollow; while the patella became straight and lax.

Under the use of appropriate medicines but a light inflammation followed the reduction, and in two or three weeks the patient was able to be about the house and attend to her domestic duties.

ART. VII.—*Medical Cases.* By CHARLES W. PARSONS, M. D., Providence, R. I.

1. *Ovarian Tumor. Paracentesis, Death, Autopsy*—Mrs. T. C. died of ovarian tumor, June 14, 1852, aged 44. In September, 1847, she was confined with her fifth child. Before getting about again, she at one time felt something give way, as she said, in the pelvis; and she afterwards found that she did not come back to her usual size. The enlargement was not particularly on one side; it increased in spite of various treatment. I do not know whether she was tapped by any one before me; I have notes of eight tapings, as follows:

	Quantity drawn.		Quantity drawn.
October 15, 1849, -	Not recorded.	December 6, 1851, -	53 pints.
October 3, 1850, -	"	February 27, 1852, -	65 pints.
April 14, 1851, -	"	May 3, 1852, -	51 pints.
September, 5, 1851, -	38 pints.	June 11, 1852, -	About 30 pints.

The intervals between the operations grew shorter steadily. In about nine months, almost thirty gallons of albuminous liquid were formed and drawn away, yet the emaciation was not marked till near the last. The liquid was usually nearly transparent, viscid, with a bluish tinge. Fluctuation was distinct over the whole abdomen; solid portions were indistinctly felt in right iliac region, and also a little left of the umbilicus. The general health was not affected except by weight and pressure, till May, 1852. After the operation in that month, she lost appetite, then had nausea, vomiting, great difficulty in obtaining evacuations of the bowels, then dysenteric symptoms, tenesmus, with frequent slimy and bloody dejections, no tenderness of the abdomen, swelling of both feet, which had never occurred before, and shooting pains down the legs. The distension and consequent dyspnœa were not so great as before, when I operated in June, which I did after consultation, and stating the probable approaching end of the case. The liquid drawn June 11th was very fœtid, and stained a silver probe black,

She was then emaciated and weak, but much more comfortable after the operation; was kept up by stimulants. June 13th, she was evidently sinking; next morning, had much jactitation, without pain, and died at 12 1-2, P. M.

On post mortem examination, the fat was found more than half an inch thick on the front of the abdomen. The abdominal cavity was mostly filled with an immense sac, closely adherent to the walls in front, near the umbilicus, and around the region of operations, but elsewhere free, with the exception of small adhesions to the omentum, and ascending and transverse colon. There were a large number of distinct sacs, containing, some a watery, and some a thick, syrupy liquid. The tumor was developed from the right ovary.

2. *Fibrous Tumor in Posterior Wall of Uterus; Retroversion with Prolapsus; Pessary Worn; Metritis, Peritonitis, Death.*—The following case occurred in the practice of another physician, who kindly invited me to the autopsy, and from whom I learned at that time the points of its history.

A married woman, about thirty years old, had had several children, the youngest being two years of age; since its birth, she had again become regular, and menstruated pretty naturally, just before the beginning of the sickness of which she died. She had long suffered from prolapsus with some degree of retroversion of the uterus, and had occasionally worn an elliptical pessary. About three weeks before her death, she had a turn of retention of urine, with considerable distress; walked to the doctor's office, about half a mile, bringing the pessary with her. He relieved her with the catheter, replaced the uterus by the finger, inserted the pessary, and she walked home. Soon after, she was taken ill, with symptoms of inflammation of the womb, which led to those of general peritonitis, with distension of the abdomen, and death. I regret that this history is not more full and precise, but it is all I recorded after the autopsy.

On post mortem examination, the abdomen was found to be distended, containing from three to four pints, as estimated, of a sero-purulent liquid, with fibrinous flakes. There was great injection of the peritoneum, both of the parietes, and on parts of the small intestines, less on the colon. The small intestines were generally dilated; the large were less so. The uterus, before opening it, showed a rounded form, instead of being flattened from front to back. It was estimated to be five times its natural size. On laying it open, the enlargement was found to be primarily and mainly in the back wall of the body and fundus. In this wall was a globular fibrous tumor, as large as a small orange, composed of dense fibrous mingled with common areolar tissue—its principal element, as shown under the microscope, being white fibrous tissue. This tumor was easily distinguished, on all sides, from the texture of

the enlarged uterine wall. The cavity of the body of the uterus was enlarged, and, in consequence of the overgrowth of the posterior wall, appeared to be close to the front of the organ. Its lining membrane was very red and moist, with not very tenacious mucus.

On the lower part of the posterior surface of the uterus, the peritoneal covering was intensely red over a space of an inch in diameter, less so in neighboring parts, injection spreading from this spot in a radiating manner. Both ovaries and extremities of the Fallopian tubes were intensely red. The left Fallopian tube contained pus. There were recent corpora lutea.

The gall bladder was distended with healthy bile. Kidneys appeared healthy.

We could hardly help inferring, that the partial retroversion was caused by the tumor, that the enlargement was partly caused by the same tumor, partly by the hypertrophy stimulated by the existence of this growth, and that the pessary which sustained the uterus in place had produced the inflammation in its posterior peritoneal surface, whence it spread, over the serous membrane.

ART. VIII.—*Veterinary Medicine; Angioleucitis.* BY WM. HENRY THAYER, M. D.

The case of a yearling calf, of Dutch and Devon stock, which I had occasion to examine *post mortem* in December last, leads me to make some observations on the treatment of sick cattle and horses generally. Most physicians in the country are liable to be consulted in behalf of all kinds of stock, in the absence of well-qualified veterinary surgeons, and see more or less sickness in their own animals; so that such a subject is always interesting for itself. It has also an importance as affording a favorable opportunity to refresh anatomical and pathological studies, which may be profitably pursued in any of the lower animals; and still more as enabling them to correct the frequently erroneous views held by farmers upon the diseases to which their cattle fall victims—views it is desirable to correct, since they have an unfavorable influence on the treatment.

The case is briefly this: A calf, previously in good condition, but a fortnight before brought from pasture to high feed in the barn, died after less than twenty-four hours' illness, being nearly dead when found in the morning, and although temporarily revived by half a pint of rum, dying at noon. Two hours later, we examined her thoroughly, finding the viscera all in normal condition, the heart containing soft dark coagulum only, and the left hind quarter extensively diseased. The whole of this extremity, down to the hock, presented deep engorgement of the muscles, with

emphysema of the same, and serous infiltration of the areolar tissue—to the depth of two to four inches, the deep layers being little or not at all engorged, but unnaturally pale—the whole having perhaps a normal consistence. The lymphatic glands, especially the inguinal, enlarged to four or five times their natural size, somewhat softened, ash-colored mixed with red, and showing under the microscope (Dr. Stiles) a large amount of granular matter, but no pus. One gland also, very much enlarged (three inches long,) and in similar condition, along the right common iliac vessels. The left external iliac and femoral veins were plugged with coagulum, adherent in spots, down nearly to the knee, but there was no exudation of lymph in or around the vein, and no pus. The inner surface of the veins was discolored but smooth. No other veins or arteries had any abnormal appearance. Hip-joint healthy.

Here we had a case of acute inflammation of the lymphatic glands, with commencing phlebitis, probably secondary to the glandular inflammation—a not uncommon sequence. The inflammation was probably of a septic nature, as there was no evidence of a traumatic origin. And besides its internal resemblance to the plague, (the chief of the varieties of angioleucitis from septic causes,) the veterinary writers say that in these cases when the animal lives two or three days, the skin is covered with sloughing ulcers—thus presenting still further resemblance to the buboes and carbuncles of the plague. Bulard (says Hasse) found the only constant affection in the plague,—and which constituted the basis of all the others,—to be a specific inflammation of the lymphatic glands, taking its rise for the most part in the extremities, in the inguinal region and in the axillæ, advancing thence to the groups of glands within the thorax and the abdomen, and seeming ultimately to determine a general and peculiar decomposition of the blood.

The dissection confirmed the opinion of the requisite treatment, which I had formed from the general character of the symptoms; and I took occasion to urge the necessity of an actively stimulating course in cases of this nature. Dr. Hatch, of Keene, the owner of the calf, held the same views, but the practice of many farmers is quite at variance with such a course,—a powerfully reducing plan being generally adopted, instead of that which the evident depressed condition of the animals, and sound pathological principles, would dictate. And their authority—as far as they recognize any—is Mr. Youatt. Several persons who saw the calf, pronounced the disease to be *black leg*, *black quarter*, and *joint-murrain*, terms used synonymously by veterinary writers, and which Youatt calls also “inflammatory fever.”

Mr. Youatt has been high authority, and to some extent deservedly so. His knowledge is really that of the farrier of large experience. Upon faulty anatomy and physiology he reasons, of

course, absurdly, in his attempts to explain pathological operations. We need not therefore be surprised to find his treatment frequently injudicious. Like much of the medical treatment of past time, it is usually based on certain assumptions and artificial theories. The mode of selecting the treatment is in fact just that which most unprofessional persons would employ, that is, to decide upon the name of the disease, and treat it accordingly; but with no regard to the actual condition of the system at the time. That I may not be thought unjust to Youatt, I will quote from his chapter on this disease.

After saying, "The vital powers generally are weakened, and in consequence of this there is the speedy tendency of every excretion to putridity, and the actual commencement of decomposition while the animal is yet alive," he makes the following remarks: "The very name of the disease, *inflammatory fever*, indicates the mode of treatment. In a case of excessive vascular action, the first and most important step is copious bleeding. As much blood must be taken as the animal will bear to lose; and the stream must flow on until the beast staggers or threatens to fall. Here more than in any other disease, there must be no foolish directions about quantities. *As much blood must be taken away as can be got*; for it is only by bold depletory measures that a malady can be subdued that runs its course so rapidly. Purging must immediately follow."

While we find many such injurious views prevailing among stock-raisers, I am glad to believe that the fruits of a better education are becoming apparent, especially in veterinary surgeons. In Mr. Dadd's books, one of which on cattle I have examined, I find evidence of a more thorough knowledge of pathology, and a recognition of the fact that in general principles the medical treatment of cattle and horses must be the same as that of human beings, inasmuch as their diseases are most of them very similar. And in the affection before us, Mr. Dadd is well aware that we have a disease of great vital depression, in which active stimulation gives the only hope of recovery. He says, "It is an unfortunate occurrence that this disease (black leg) should ever have been classed as an inflammatory [sthenic?] affection, for the error has led to a system of practice disastrous as the cattle plague. The following paragraph from Youatt will serve to show the orthodox method of treating inflammatory fever, and will also explain the reason why a great proportion of the animals treated die." Then follow the directions I have already quoted from Youatt, advising the most active bleeding and purging. After which, Mr. Dadd goes on to say, "Blood-letting and purging can have no good effect on a disease like this, so prostrating, and which runs its course to mortification so rapidly. Such a wretched system of practice has always failed, and ever will fail. That form of treatment which reason and experience suggest, is the

best. It would naturally occur to the mind free from the prejudice of veterinary orthodoxy, that a disease which runs into sloughing and mortification, in a few short hours, must require life-sustaining agents."

Men are not to be expected to have an accurate knowledge of the diseases of their stock, any more than of their children, and must rely on an educated surgeon if they wish the best advice; but being often unable to command the services of qualified men, it is highly desirable that they should learn to look at the general condition of the sick animal in choosing remedies for any occasion, and when it is sinking rapidly from great prostration of all the vital powers, should refrain from reducing it further by blood-letting or drastic purgation, but promptly adopt supporting measures of the most active kind.

ART. IX.—*The Cytoid Corpuscle. From a Course of Lectures on the Anatomical Elements.* By R. CRESSON STILES, M. D.

Next to the red blood disks, there is no element which has been better studied, which is of greater pathological importance, or around which more theories have clustered, than the cytoid corpuscle.

The blood, lymph, mucus, pus, and, in fact, all the normal secretions and pathological effusions contain in greater or less quantity a white cell, of a diameter varying from that of a blood disk to double that size, finely granular in appearance, containing one or several nuclei, either visible or readily formed or brought into view by the action of water or acetic acid. Unlike the blood disks, they are true cells, consisting of a delicate membrane or vesicle, enclosing liquid contents—they swell on the application of water by true endosmose, not by imbibition, as manifested by gelatiniform substances, as the red corpuscles and the white fibrous tissue,—but the vesicle enlarges on the application of water, and the granules in its interior may be seen in rapid molecular movement. This corpuscle, like all other elements of the body, presents variations to a great extent without losing its identity—variations due either to essential conditions, as, for example, the stage of development, the nature of the liquid in which it is found, or the constitution and state of the individual from whom it is derived, or secondly to accidental and artificial causes which must be considered in all microscopic examinations. Before these variations had been duly appreciated, they were considered sufficient to establish several *species*, known under the names of white blood corpuscle, pus corpuscle, pyoid corpuscle, lymph corpuscle, and mucous corpuscle.

Now all these species are reduced to one, with its varieties, and wherever the cell I have described, and will demonstrate, is found, whether in blood, lymph, mucus, or pus and liquids of pathological origin, it takes the name of "*Cytoid Corpuscle*"—a name given it by Henle (*Cytoide Körperchen*) the *Leucocytes* of Robin. You will then understand when I speak of the *cytoid corpuscle*, I consider the white blood corpuscle and the pus corpuscle to be the same species of cell. Observers who hold the most opposite opinions respecting the origin and destination of the *cytoid corpuscle*, admit that there is no possibility of distinguishing the characters of this element as existing normally in the blood, from those which it presents in lymph and pus. The two most opposed doctrines are those held by Virchow and Robin, and their testimony agrees perfectly in this respect. (Virchow, *Cellular Pathologie*, Berlin, 1859, page 162.) (Author's Notes on Robin's Lectures.) In fact, the contested point between Virchow and Bennett on the subject of *Lycocythæmia* is entirely dependent upon the priority of the recognition of the identity of the white blood corpuscle and the pus corpuscle.

Varieties in the Cytoid Corpuscle.—The size of the *cytoid corpuscle* may vary from that of a blood disk to double that diameter. It may present one or several nuclei. The formation of a nucleus may be readily seen in this corpuscle on the addition of water—not a mere revelation of a preëxisting nucleus, but a true formation as occurs in many other elements, animal and vegetable. The mode in which this occurs I can readily explain. When a cell containing a variety of substances in mutual dissolution is surrounded by a liquid in which some of those substances are insoluble, and endosome gradually takes place from the whole surface of the cell the substances insoluble in the liquid absorbed are gradually driven towards the centre of the cell, when they collect in a mass which forms a nucleus. The chlorophylle corpuscles of plants which present no nucleus, can be made to possess one on the addition of liquor ammoniæ. So with a great number of species of cells, animal and vegetable, under the influence of various reagents. This cell shrivels from the absorption of the liquid in which it at first existed—it undergoes fatty degeneration, and appears as the so-called exudation or inflammation corpuscle. I have kept pus in hermetically sealed tubes, and found that it could be changed into a large transparent cell without a trace of granulations, or nucleus. It is seen to present these characters in localities where pus has been for some time confined, as within the eye-ball. When this cell is perfectly fresh, it is rarely spherical. It presents a remarkable phenomenon of active deformation called "*sarcodic expansion*." It takes an elongated form, or puts out a projection like the finger of a glove, or becomes of tufted appearance on a portion of its periphery—this change can be

readily watched—in a few moments the projected portion is withdrawn, and another portion of the surface becomes salient. This movement may be witnessed for hours in the blood, or the lymph of a blister, or fresh pus. If a drop of water be added, the movement ceases, and the cells become instantly spherical. The term sarcodic expansion was given to this manifestation of activity from its resemblance to the motions of some of the infusorial animalcules which possess no characteristic form, but resemble a lump of contractile substance, to which material Dujardin gave the name of “sarcodæ.”

Origin of the Cytoid Corpuscle.—The cytoid corpuscle is independent in its origin of a preëxisting cell, or of any organ of the body except for the elaboration of the materials of which it is constituted—it is produced by a true genesis, a free cell development. Those systems which derive promiscuously every element from every other element, or make every element a variety of white fibrous tissue, are deficient in truth and observation, and subserve merely a system. The origin of the cytoid corpuscle has been well observed by Robin in the lymph produced by a blister on the surface of the skin. According to Robin, the cytoid corpuscle first appears as a small cell, quite transparent and structureless—gradually enlarges until it reaches the normal size—becomes granular, forms nuclei, and presents all the characters of the fully developed cytoid corpuscle. I have repeated his observations with the best powers of the microscope, and am fully prepared to side with the advocates of the free cell development of this element. In the lymph from blisters kept in hermetically sealed tubes in a temperature of 100° Fahrenheit, I have noticed an increase in the numbers of these corpuscles, and have never witnessed anything like a fissiparous or endogenous mode of reproduction. The idea that these bodies are produced by the cells of the spleen and lymphatic glands, is simply absurd. They do not resemble, either in form or reaction, the nuclear epithelium of these organs. They are found in the lymph before it has reached a single lymphatic gland, (Robin); that they are produced by these organs in the formation of abscesses, no one admits—it is almost impossible to escape from the conclusion that they are produced by free cell development. The repugnance to the admission of this mode of development has arisen from a fear of lending support to the condemned doctrine of spontaneous generation; it being thought to follow as a necessary consequence that if cells may arise spontaneously in the organic liquids of the body, there is no reason why they may not arise also in infusions of organic matter after the same manner—as if the Spirit of God which of old moved on the face of the deep and evoked living forms from formless matter, could not now call forth a simple cell from a formless homogeneous blastema. This restriction of wonderful powers to

a cell, a mere aggregation of active molecules, is made to hide from our view the essential activity of the molecules themselves, to satisfy us with mere form and deter us from looking behind the form to the properties of organic matter.

Just as crystallization is peculiar to inorganic matter, the size, angles, color, &c., of the crystals due to the substance and surrounding conditions, so *cellization* is characteristic of organic matter, the size, shape, &c., of the cells produced being due to the nature of the matter and external conditions.

[TO BE CONTINUED.]

SELECTIONS.

[The January number of the *Maryland and Virginia Medical Journal*, has a translation of a very interesting extract from the "Principles of General and Special Therapeutics, by Professor Forget, of Strasburg," from which we copy the following portion, regretting that we cannot afford room for the entire article:]

ON INVENTION IN THERAPEUTICS.—It is easy to perceive how new remedies increase indefinitely, and attain such numeric proportions that no practitioner can follow these giddy revolutions, obliging some to try novelties day after day, and others (who are wisest) to let the current flow by, employing a small number of tried remedies, waiting until the experience of others should positively sanction those methods (occasionally efficacious) which float on the surface of this perpetual deluge. Here a delicate question is involved, with regard to which, as on all subjects, I dare to have my own opinion. We have just seen, and everybody knows, that for every hundred therapeutic innovations, there is probably not one viable. Do you wish official proof of the statement? Look at the immolations which the reporter on new remedies annually makes at the Academy. You can hear every day this repeated, "that when a new remedy is produced, it is first the duty of practitioners to believe; it is not right to suspect the knowledge and good faith of the discoverers; that the first thing to be done is to experiment, &c." All of which is a miserable non-sequitur, if not hypocrisy. These false principles have been invented by people interested in managing every body, and who find it advantageous to turn novelties to their advantage. The opposite precepts are true; it is necessary to wait till proof should be furnished before exposing oneself to new deceptions. People are not wanting who will verify the thing; the wise physician abstains if there is danger. Great, indeed, will be your danger if

you are caught in the snare ; new remedies succeed each other so rapidly that you will scarcely have experimented with one before you must try another. No sooner will you find one good than a better will be proposed, and you will die in your continuous search, leaving behind the memory of a superficial practitioner, versatile but without conviction, just because you wish to prove your faith in science.

It is then a dangerous law that a practitioner should be obliged to try every new remedy. This law has been invented by intriguers, whose design is to have themselves spoken of at any price. The practitioner is master of his decisions, and must depend on his own conscience. There are, however, certain rules as regards experimentation, which may be laid down as follows :

1. When a remedy is dangerous, *per se*, we should wait until other observers have risked the chances of disaster. This was the doctrine of Chomel—the type of a wise practitioner—as regards the treatment of rheumatism by large doses of sulphate of quinia. After the knowledge had been obtained—the limit of doses had been established, (two or three grammes,) the symptoms which indicate the cessation of its use (quinine intoxication,) the cases known in which the remedy is best suited, (those of moderate severity,) now the sulphate of quinine can be used with great safety. But does it procure more success than other means used in rheumatism ? The question is at least doubtful.

2. When a remedy is irrational, bizarre, absurd, as often is the case, the practitioner should leave to others the ridicule of experimentations, that almost always end in mystification. Examples are too numerous for citation, and we do not wish to wound any one.

3. When a remedy (somewhat senseless) is innocent, we may always try it, provided we do not fear losing time.

4. When a remedy, otherwise innocent, presents some chances of success, it is well to see what may result from it. Thus colodion is a varnish retentive and constricting, like gutta percha, caoutchouc, or even gum, save that it is irritating ; thus glycerine, a soothing topical application like the oils from which it is obtained, keeping up prolonged humidity ; thus pulverized carbon, detersive and absorbent, if not anti-neuralgic ; thus cod-liver oil, at least emollient and nutritive, if not anti-tuberculous ; thus chlorate of potassa, intended to abort stomatitis and all kinds of angina, which should not dethrone alum and nitrate of silver ; thus sub-nitrate of bismuth—an anti-diarrhœa remedy, which should not make us forget opium, &c. The misfortune is that all these remedies, introduced with pure intentions, I admit, are soon turned to commercial advantage and cause honest men to regret that they have lent a hand to imprudent speculations. Thus colodion has been lauded as possessed of impossible resolving virtues, and has been mixed with substances of all kinds ; thus

glycerine, whose end has been reached by making it a wonderful internal remedy and the vehicle of many incompatible substances (tonics, astringents, &c.) under the name of *glyceroles*; thus pulverized carbon, vended as a miraculous specific; thus iodized oil, which has tried to dethrone cod-liver oil; thus chlorate of potassa and subnitrate of bismuth, which cure *ad libitum* enteritis, dysentery, nay, even typhoid fever, etc. These are enough to make honest practitioners circumspect, if they do not wish to play the part of dupes.

5. There are some remedies, soi-disant new, which present themselves modestly and insidiously, as simple succedanea, which soon attempt to eclipse their companions. Such are most of the alkaloids, (cinchonine, codeine, digitaline, atropine, aconitine, &c.) Such is arsenic, with many other febrifuges that sprout forth daily; such are compounds of substances used separately, which compounds are asserted to accumulate advantages: valerianates of zinc, atropine and ammonia; hydro-ferro-cyanate of ammonia, sulpho-tartrate of quinine, tannate, and valerianate of quinine; acetate, lactate, tartrate, citrate, &c., of iron, &c., &c. Good sense indicates that these pretentious compounds should not possess more efficacy than their constituents.

6. Finally, there are seductive innovations, rational to the first person that conscience ordered to experiment with them. Such are chloroform as an anæsthetic; electricity by induction as a nervous stimulant; perchloride of iron as an astringent; even iodine, despite the rude attacks to which it has been submitted. Such was woorara, that some experimenters told us would repress muscular contraction—a dominant element in tetanus—and some are convinced of its want of power. Such also all that great class of remedies called *reconstituents* or repairers of the normal elements of the economy; ferruginous preparations, phosphate of iron, pepsine, &c.—so attractive theoretically, but to which nature so often proves refractory.

The misfortune is that the more chances of success a remedy offers, the greater is the ardor with which mercantile cupidity hastens to coin money out of it. Honorable men, who were believed to work solely for science and humanity, succumb too often to the bait, and consent to see their names prostituted in the advertising columns of public newspapers.

If we protest against the deluge of poly-pharmacy and of drug-charlatanism, it is not from idleness, sterility or a preconceived spirit of opposition, but in accordance with conviction based on long and sad experience. Our material interests would tend to suppress rather than provoke an expression of our thoughts.

MORBUS COXARIUS—Sayre's Method of Treatment.—Dr. S. discards completely the long-advocated and popular notion that morbus coxarius is of necessity connected with tubercular degeneration of the joint, and regards it strictly as a difficulty, and treats it as such. The unparalleled success attending this recently adopted mode of treatment is beyond a doubt attributable to this view of the subject. But if the patient be laboring under a depraved and vitiated condition of system, constitutional remedies are of course employed for the removal of this condition. Morbus coxarius is invariably preceded by inflammatory action within and around the joint, which inflammation is traceable, however obscurely, to some traumatic origin. For a more complete description than my present space will allow, of the varied results of this synovitis, or periostitis, and the appearance the limb presents in the several stages of the disease, the reader is referred to Dr. S.'s report (Am. Med. Ass.), in which the entire matter is freely and lucidly explained. The great object aimed at in Dr. S.'s treatment is that which is indicated in every variety of articular inflammation, viz., rest, and the removal of the cause of irritation. This object is effected in various ways, the treatment being adapted to the particular stage of the disease.

In the great majority of incipient cases of morbus coxarius, which stage of the disease is not characterized by any very marked malposition of the limb, as well as, in very many cases advanced to the second stage, which is characterized by depression of the pelvis of the affected side, with eversion and *apparent* elongation of the limb, all that is necessary to effect a perfect cure is the use of Dr. S.'s splint for hip disease, which is presently to be described, together with its mode of application. If, however, the effusion that always occurs within the capsular ligament in the second stage of the disease, is excessive and persistent under the application of leeches, iodine, cold, etc., as is too often the case, the joint must be opened, either by puncture with the trocar, or by free incision. And this operation is more imperatively demanded if the effusion is suspected to be of a puriform character. In addition to this, the tendons of all firmly contracted muscles are divided subcutaneously. The second stage of the disease is marked by the most exquisite sensibility. Pressure upon the trochanter major, or at any point that will bring the caput femoris forcibly against the acetabulum, produces extreme suffering, which suffering is again instantly relieved by removing the pressure from the joint. The third stage of the disease is recognized by its presenting symptoms diametrically opposite to those of the second stage. The pelvis on the diseased side is unnaturally elevated, sometimes normal; the thigh is flexed upon the pelvis, and the limb, instead of being *everted* and abducted, as in the second stage, is *inverted* and adducted, and there is comparative freedom from pain. The operations required in this stage of the disease consist in the

division of the contracted muscles, the breaking up of bony ankylosis, if any exist, and in extreme cases the resection of the head of the femur, together with, in some cases, the neck, trochanter major, and a portion of the shaft of the bone, as well as all necrosed or carious portions of the acetabulum.

But to be more explicit, the method of treatment employed in the different stages of the disease is as follows:

Treatment in the First Stage.—Two straps of strong adhesive plaster, cut slightly tapering from above downwards, broad enough to almost envelop the limb, and of sufficient length to extend from two or three inches below the trochanter, to within as many inches of the malleoli, are placed along the internal and external aspect of the limb. To the inferior extremities of these lateral straps are attached two pieces of strong webbing, an inch wide, and long enough to be united a few inches below the foot. These straps are carefully adjusted to the part, and secured by the application of two or three narrower straps, carried spirally around the limb, and a roller extending from the toes to the pelvis. The webbing is not to be confined by the circular straps, nor by the bandage, but left free, for the attachment of the splint during the day, and counter-extension during the night. The leg being dressed in this manner, is allowed to remain undisturbed for a few hours, in order that the plaster may become firmly adherent to the skin. After which Dr. S.'s splint is applied. The splint is manufactured by Messrs. Ford and Wade, No. 85 Fulton Street, and consists of two narrow bars of steel, that play upon each other at the knee in such a manner as to permit of shortening and extension, which is graduated at pleasure by means of a ratchet or screw worked by a key. The instrument extends from the crest of the ilium to within a couple of inches of the external malleolus, and is so constructed as to accommodate itself to the curvatures of the limb. A perineal band of firm rubber tubing is connected with the upper extremity of the instrument by means of a strong catgut, which works through a pulley, which pulley is sustained at the superior extremity of the instrument by a ball-and-socket joint. At a point corresponding with the knee is placed a knee-cap, which assists in securing the instrument firmly to the limb. At the inferior extremity are attached a small pulley and buckle. The instrument thus briefly described is the splint used by Dr. S., the employment of which has been attended by more favorable results than that of all other instruments combined in the treatment of this hitherto formidable disease. The splint is applied in the following manner: The perineal band being carried well into the groin is secured by means of the catgut to the small pulley at the upper extremity of the splint, the knee-cap is buckled snugly over the knee, and the webbing connected to the external adhesive strap passed over the small pulley, and secured by the buckle, mentioned above. The splint being thus adjusted, extension is readily effected by means

of the ratchet or screw. In this manner all contact between the inflamed articular surfaces is prevented, while the motion of the joint is unaffected. The weight of the body is removed from the joint, and transferred to the limb below.

The splint is worn, as a general thing, during the day only; but in order that the joint may have the benefit of continuous extension, the following treatment is substituted during the night: The splint being removed, the two pieces of webbing are united below the foot. To this webbing a cord is attached, which, passing over a pulley at the foot of the bed, is connected to a weight, from four to eight pounds, which it suspends, and which acts as the extending, while the patient's body acts as the counter-extending force. Should the extending force require to be considerable, and more than the body of the child can successfully oppose, the foot of the bed is elevated to any desired angle, thereby adding the force of gravitation to the already existing counter-extending force. All irritation being thus effectually removed from the joint, an opportunity is afforded for a return to its healthy condition, which usually takes place in the course of a few months.

Treatment in the Second Stage.—This consists in effecting the re-absorption of the effusion within the joint by medicinal agents, if possible, and in overcoming by means of the weight and pulley, the resistance of the contracted muscles. But if these objects cannot thus be effected, the tendons of the contracted muscles are divided subcutaneously, when at once the limb may be made to assume its normal position, except in cases of extraordinary effusion, when it becomes essentially necessary to puncture the joint. For the performance of this operation and its subsequent treatment, the reader is again referred to Dr. S.'s report, already mentioned. After the operation the limb is dressed in the manner already described, the patient placed in bed, and the extending weight at the foot of the bed attached to the webbing, cold water dressing is applied to the wounds, which, with rest and care, heal usually in the course of a few days, after which the patient is ready for the application of the splint.

Treatment in the Third Stage.—This is of a more complicated and serious character. It consists in making an incision about six inches in length directly over the great trochanter and in a line with the shaft of the femur, in disarticulating the head of the femur, and in removing such portions of it, as well as of the acetabula, as are found in a dead or nonviable state. In order to accomplish this, not infrequently firm, bony adhesions require to be broken up. The patient is then placed, for a time, in Dr. Bauer's "wire breeches," an apparatus that combines perfect rest with extension, the two great objects desired at this stage of the treatment. The wound is filled with lint, treated with the water dressing, and allowed to granulate from the bottom. It is desirable, while the patient remains in this wire apparatus, that he be

removed therefrom occasionally, in order that passive motion of the knee-joint may be made, thereby preserving its healthy tone. When all inflammatory action has subsided, and the wound is closing kindly, Dr. S.'s splint may be applied and the patient be allowed to go about. In order to set forth the results of this mode of treatment, I will give the reader the notes of two or three cases which I have recently taken.

CASE 1. *First Stage of the Disease.*—E. F., aged 7 years, male, while sliding upon the balusters of the stairs about the first of October last, received a fall that inflicted an injury upon the right hip. The child complained at the time but little, and the matter was considered trifling. The next morning, however, the child experienced an increase of pain upon any attempt to use the limb. He evinced an unwillingness to walk about, and when he did so, would allow the ball only of the right foot to touch the floor. From this slight injury, as a starting point, the disease began at once to develop itself. The sensibility of the joint increased daily; so much so, that in the course of two weeks from the date of the injury, the little patient's health began to be seriously impaired. He slept badly at night, frequently waking and crying out with pain. The position of the limb, considering the brief time that had elapsed, was considerably affected, and afforded strong evidence that the disease was rapidly merging into the second stage. Dr. S. was called to see the patient when in this condition, two weeks subsequent to the infliction of the injury. The nature of the disease was at once determined; the child was placed in bed, the limb dressed with the adhesive straps, and the extending weight at the foot of the bed employed; leeches and cold water were also applied to the joint. This treatment was pursued two weeks, at which time the pain in the joint was so far diminished that the use of the splint was advised. It was accordingly applied, and the patient permitted to go about. Since the day the splint was put upon the little fellow, his improvement has been rapid and continuous; and at the present date he is so far recovered that the joint admits of every variety of pressure and motion with entire impunity.

CASE 2. *Second Stage of the Disease.*—M. L., male, aged eight years. When five years of age, complained of pain in the right knee; the family physician regarded the symptoms as referable to what are vulgarly known as "growing pains." But the pain increasing and the case growing more aggravated, a more careful examination was made, when it was discovered that the difficulty was confined to the hip-joint exclusively, there being no lesion whatever in connection with the knee. The child was now confined to bed, and for three months treated with rest, iodine, and friction; at the end of which time he so far recovered as to be able to walk about, not, however, without more or less pain and lameness, especially after any severe exercise. By constant and careful

attention the child was kept in pretty much this condition until about nine months since, when, without any ascribable cause of a traumatic character, the symptoms again became intensified; so much so, that the physician in attendance recommended that the child be taken to the College of Physicians and Surgeons, in order that a more thorough investigation of the case might be had. This suggestion was acted upon by the friends, and a very careful examination was made by Prof. P. who pronounced the disease morbus coxarius, and advised that it be treated by issues. About a week after the examination, Prof. P., placed a nitric acid issue behind the trochanter major, which continued to discharge some six weeks, when it was permitted to close; cod liver oil was also prescribed. The issue and the oil appeared to afford slight relief only. At this time Prof. P. called Dr. S. to see the child with him, and recommended the application of his splint, which was applied. On the 21st of June, the child was brought to Dr. S.'s office for the first time since the employment of the splint. The mother complained that he ran all about town, to fires, &c. The child walks in the instrument with great freedom. Of course the splint does not permit of perfect motion at the knee, and the only appearance of lameness the child now presents, is owing to the restricted motion of the knee joint. His appetite is good and he sleeps well without any pain.

This case is rapidly progressing to a perfect cure.

CASE 3. *Second Stage of the Disease—Recovery.*—G. R. McD—, aged 7 years, male, came under observation, October 25, 1860. The friends state that he has generally enjoyed very good health, having been remarkably exempt from the various diseases incident to childhood. There is hereditary predisposition to phthisis on the mother's side, she having had a sister afflicted with curvature of the spine, and who died of pulmonary consumption. His mother informed me that in the beginning of January last, he first complained of pain in the *knee*, especially at night, and that he has never complained of pain in the hip, but always referred it to the knee. The pain continued to increase, and after a few weeks the mother observed a very marked distortion of the affected limb, with partial curvature of the spine. The pelvis on the diseased side was depressed, the knee flexed, the leg abducted and *apparently* elongated. A physician was now called, who pronounced the disease rheumatism, and treated it with liniments and anti-rheumatic remedies, without obtaining the slightest relief. In August last, he was seen by another physician, who, upon examination found the disease to be connected with the hip-joint. Under this gentleman's care, he was treated with electricity and the medicated bath, but to no purpose.

On the 25th of October, the patient was brought to Dr. S., who at once discovered well marked evidence of morbus coxarius in the second stage, far advanced. On the following day the child

was placed in bed, under the extending force previously described, hoping thereby to remove irritation and restore the parts to their normal position without resorting to the knife. But the muscles were so rigidly contracted, and had been in this condition so long, that they were found to be unyielding, even under a quite forcible extension. Dr. S., therefore, chloroformed the patient, divided the contracted muscles, and reduced the limb to its natural position. Extension was again applied, for which the splint was submitted in the course of a few days; and to-day the patient may be regarded, although he yet walks in the splint, as beyond the influence of the disease.

CASE 4. *Third Stage of the disease—Ersection—Recovery.*—C. M., aged 5, female, had enjoyed good health until May, 1859, when she contracted pertussis, which continued three months, and under which her general health was observed very much to suffer. In June, one month after the occurrence of the whooping cough, she for the first time complained of pain in the left knee, and gave evidence of a slight degree of lameness. These symptoms were not referable to any known traumatic cause, the cause in this case being doubtless so slight and obscure as to pass unnoticed by the friends. And, as this child is evidently laboring under the strumous diathesis, we can readily conceive of a slight cause as the source of the difficulty under consideration, her previous immunity from disease notwithstanding. This condition of things continued, at times better, and again worse, until November, when the symptoms becoming so intense and aggravated, she was necessarily confined to bed. She suffered much pain at this time, in the hip, as well as in the knee. Hectic fever now set in, with colliquative night sweats, followed by anorexia and emaciation. The parts about the hip were tumid, hot, and extremely sensitive. Three openings were made by the attending physician, from which pus was evacuated. The discharge was profuse, and afforded much relief. Sinuses formed in connection with these openings, that continued to discharge pus, up to the 16th of August, at which time the patient was brought to Dr. S., who found the most marked evidence of advanced hip-joint disease, the limb being drawn up and fixed in that position so characteristic of the third stage of morbus coxarius. The sinuses above mentioned were situated one behind the trochanter major, leading to the joint, the second about three inches below, passing up to the joint upon the anterior aspect of the femur, and the third connecting also with the joint opened upon the inner and posterior aspect of the limb, just below the trochanter minor. The joint being thus so seriously involved, it was deemed advisable to attempt a cure by exsection. Accordingly, the child being anæsthesiated, the bone was exsected through the trochanter major. The entire head, together with the major part of the neck of the femur, was absorbed, and an abscess was found in the great trochanter. Por-

tions of the acetabulum were found to be carious, and removed. A large collection of cartilaginous or semi-osseous deposit was removed from the neighborhood of the acetabulum—matter thrown out evidently, with the intention to effect in time the anchylosis of the joint. The patient was now placed in the wire breeches of Dr. Bauer, a portion of them being cut away to facilitate the dressing of the wound. The night after the operation she slept well, without an anodyne, and so continued to do. Her appetite increased, and marked evidence of general improvement at once appeared. While in this wire splint, she was occasionally taken out for the benefit of out-door air. In seven weeks after the operation, the wound was closed, and the patient sent to her home in the western part of this state. Letters recently received from the parents, announce that she has gone on from good to better; and that she is to-day, what their most ardent hopes, a few months since, dared not picture. [*Am. Med. Times.*]

ABSTRACT OF CURRENT MEDICAL LITERATURE.

PROLAPSE OF THE CORD.—The *Cincinnati Lancet and Observer* for February, has the following article from Dr. W. T. Brown of C.

"On Saturday, December 8, 1860, at 9 o'clock, A. M., I was called to attend Mrs. — in her fourth confinement. When I entered the room, she informed me that the membranes had ruptured at about 4, A. M., but that the pains had not been very severe since. I immediately made an examination, and found a large portion of the cord external to the vagina, and pulsating quite strongly. The vagina was moist, and the os uteri fully dilated.

I sent for Dr. Bonner in consultation, and upon his arrival we placed the patient upon her knees, with her chest and face also resting on the bed, following out the plan of Dr. T. Gaillard Thomas, of New York. Dr. Bonner then introduced his right hand into the vagina, and succeeded in replacing the cord so far within the uterus, as to prevent its protruding until after the delivery of the child. We had previously diagnosed twins, and that the breech of one child was the presenting part. But as the patient had no pain, and the breech did not enter the superior strait, we determined to bring down the feet.

She was placed on her left side, and delivered of one child in this way, in a very short time. The second child also presenting the breech, the feet were brought down, and delivery accomplished without any difficulty. The placenta and membranes were

expelled in a few minutes. Both children are living and are quite healthy. The mother recovered without any unfavorable symptoms."

The late Dr. Rogers, of Green Island, N. Y., had a paper on prolapse of the cord in preparation at the time of his death, embodying the results of a large number of cases which he had succeeded in collecting. We do not know whether the paper is in the hands of any one for publication, but we trust the careful labor its author expended upon it, may not be lost. It is only now and then that any of the expedients which are recommended to return the cord and cause its retention are successful. Dr. Thomas' plan recommends itself before many others.

INDUCTION OF PREMATURE LABOR AND ABORTION.—Three very instructive cases of this kind are reported in the *Louisville Medical Journal*, by Prof. Henry Miller. In two of them labor was induced on account of great pelvic distortion. For this purpose the uterine douche was resorted to; in the first case, the apparatus designed by the late Prof. Kiwish, being employed, with a slight variation. To the bottom of a tin box, about ten inches square, and holding about four gallons, an india-rubber tube twelve feet long was attached by a screw and nut. The tube had a metallic tube, fashioned at the end like the nozzle of a common enema syringe, affixed to its other extremity, with a stop-cock about two feet from the end. The box is suspended nine or ten feet from the floor, filled with water. The patient sits on a stool in a bath-tub; the nozzle is introduced into the vagina and brought in contact with the os uteri. The cock is then turned so as to pour a continuous stream upon the os uteri until all the water is discharged. In the first case, the douche was applied first once, then twice a day, with the water at the temperature of 100° Fahrenheit, and afterwards higher. After three days, the fundus uteri was found lower in the abdomen, the os softened and dilated, but no labor pains. Two days more brought rather a tardy progress, and for that reason, the suggestion of Dr. Tyler Smith was adopted, viz.: to use warm and cold water alternately. During the night of the next day the pains increased sufficiently for the expulsion of the fetus, and early the next morning the woman brought forth a living child, after a labor of average intensity and duration, and without any aid except that required in every case of natural labor. The woman had a rapid convalescence.

In the second case, warm and cold douches alternately were kept up for a month, but utterly failed to awaken uterine contractions; the uterine sound was then introduced, and allowed to remain in the uterus until pains appeared, which occurred in twelve hours. Seven hours later the ovum was expelled. The woman recovered.

The uterine sound was also selected for the third case—which

was one of separation of the symphysis pubis and the right sacro-iliac synchondrosis; but although carried more than three inches into the uterus between the membranes and the anterior wall, and carried from one side to the other, only a slight pain followed, without any expulsive effort. Eighteen days later, Cohen's method was adopted, viz.: the injection of water between the membranes and the inner surface of the uterus. Two ounces and a quarter of warm water were thrown in at noon. An hour afterward there was a chill, followed by smart fever and headache, which passed off in four hours, leaving a dull pain in hypogastrium and back. In the early part of the night, well marked labor-pains set in, and the birth was accomplished by 10 1-2 the next morning. In less than a week the mother was sent home, and advised to wear a belt slightly buckled around the pelvis.

SPONTANEOUS SEPARATION OF THE PLACENTA IN A CASE OF SEA-SICKNESS.—The placenta was completely separated, and lay in the vagina. There had been considerable hæmorrhage. The patient had been constantly sick during a voyage from St. Johns, N. F. to Prince Edward's Island, (of six or ten days duration.) Arrived in port, an examination was made, and the delivery (at term) completed. The mother did well. (*London Lancet.*)

INVERSION OF THE UTERUS.—In the *Chicago Medical Examiner* for January, Prof. N. S. Davis publishes his testimony in the case of Fisher vs. Stone, on the subject of inversion of the uterus, with some remarks on Dr. Lee's paper on the same subject in the *American Journal of the Medical Sciences* for October, 1860.

Dr. Lee implies that inversion of the uterus is the result of mal-practice, or great deficiency of care and skill, notwithstanding his allowing that this very rare accident may happen to any practitioner, as it has occurred in the hands of the most skilful and experienced. Prof. Davis' remarks upon this subject are of great importance to the medical profession in a medico-legal point of view. He says, "Inversion of the uterus is not only one of the most serious displacements or casualties to which the lying-in woman is subject; but in the present state of medical literature, it can hardly occur in the practice of any physician, without subjecting him to serious suspicions of mal-practice; and if the case should unfortunately become the subject of legal investigation, it will almost certainly result in confirming such suspicions, and consequently blasting a reputation which had cost its possessor twenty or thirty years of hard professional toil to establish. This is owing chiefly to three circumstances, that will become apparent to every one, who candidly enters upon an investigation of the subject." The three circumstances are the following: 1. The former custom of employing midwives instead of educated physicians, and the natural tendency of the latter when called to a case

of inversion, to attribute it at once to the ignorance and injudicious pulling of the attending midwife. An unfair inference, in view of the fact that the accident happens to men of the highest skill and unimpeachable veracity, whose reports show that inversions do take place without traction on the cord or any other kind of interference whatever. In some cases the inversion occurred during the first pain succeeding the expulsion of the child, and while the attendant was neither touching the cord nor any part of the person of the mother. 2. The second circumstance that presents a very strong barrier against the physician in a court of justice, consists in the *assumption* on the part of many eminent writers—as also by Dr. Charles A. Lee—that the simple existence of an inversion is *prima facie* evidence of mal-practice on the part of the attending physician or midwife; which Prof. Davis justly pronounces to be merely begging the question. 3. The third circumstance is the very general assumption that all inversions of the uterus must be commenced, if not completed, either at the time or within a few hours after delivery. Of course, the necessary inference from this assumption, is, that when not detected till some time afterwards, there must have been either gross carelessness or want of skill on the part of the attending physician.

Such is the substance of Dr. Davis' main points, which he amplifies very satisfactorily. For the ends of justice it should be generally known that inversion of the uterus may be spontaneous.

PUERPERAL FEVER.—Prof. Barker, in a clinical lecture at Bellevue Hospital, thus sums up his treatment of this disease: "1st. *Veratrum viride* should be employed to control vascular action. 2d. Opium should be exhibited in quantities as large as can be borne. 3d. The system should be supported by free stimulation, especially in the latter stages. This, though placed last in order, is probably, all things considered, the most important indication of all." In cases of anticipated epidemic of the disease, Prof. Barker is in the habit of giving large doses of quinine as a prophylactic. (*American Medical Monthly, February.*)

In regard to epidemic puerperal fever, we believe that quinine in heroic doses and active alcoholic stimulation from the outset, is the only treatment which can be relied on with any degree of confidence. It is so closely allied to epidemic erysipelas that we should be led *a priori* to adopt such a course, and its advantage is confirmed by experience.

SECRETION OF MILK FROM THE RIGHT AXILLA.—The *London Lancet* for January has such a case reported. A woman aged thirty-seven, bore her seventh child, and on the night of her confinement observed a swelling in the right axilla, as large as half an English walnut. It grew no larger, but became harder, and there was pain down to the elbow. Nearly four weeks later it began to

discharge milk (as proved by the microscope) from a single orifice, hardly larger than a sweat-duct. No pus was found in the fluid discharged, but it was quite as rich in cream as that from the mammae. Seven months later it was still the same, discharging enough to keep her linen moist, more especially when using the arm. No such phenomenon had attended her previous lactations.

Dr. Hare, who reported the case, stated that the patient had always been free from glandular disease of every kind, and he regarded this as a case of supplementary mamma. He refers to published cases of multiple mammae—three, four, or even five, having existed in the same woman—the supplementary organs being generally situated in the neighborhood of the normal ones, but sometimes in other parts of the body, as on the thigh or the back. Dissection has shown them to consist of true mammary substance.

HYPODERMIC MEDICATION.—We take from the *Cincinnati Lancet and Observer* the following translation from *L'Union Medical*:—"Herard speaks in the highest terms of subcutaneous injections of the sulphate of atropine in neuralgia. One drop of the solution is injected at first, followed shortly by from five to nine more. This quantity corresponds to three to five milligrammes (.046 to .077 grains) of the sulphate in distilled water. In twenty-five injections no evil consequences whatever appeared in the neighborhood of the wound, but general symptoms always became manifest in a few minutes: dryness of the mouth and fauces, headache, dizziness, sometimes dilation of the pupils, disturbance of vision, nausea. All these symptoms disappeared in less than twenty-four hours. Of ten patients thus treated, three were suffering from ischias, three from muscular rheumatism, two from muscular pains connected with hemiplegia, one from a contusion, one from a facialgia. Relief followed always except in the contusion; but most of the cases required several injections in the course of a few days. The result was most evident and surprising in the ischiatic affections.

Dr. Rappaner, in the *Boston Medical and Surgical Journal*, after speaking of the great success that has attended subcutaneous narcotic and sedative injections in neuralgia, where all other possible expedients had been tried in vain, says: "The constitutional treatment is a principal condition of success. Almost without exception a tonic treatment is indicated, and vegetable tonics are preferable. The sulphate of quinia is usually followed by good results. A tonic course ought to be adopted, with few exceptions, from the commencement of the treatment, going hand in hand with the local applications."

Since our February number, we have had several more opportunities to verify the excellence of this method of treatment, in cases where prompt action is desirable—especially in two cases of

acute epigastric pain, with severe vomiting; one of them a case of ulcer of the stomach, with profuse hæmatemesis and exceedingly severe pain. In this case, one third of a grain of sulphate of morphia began to take effect in ten minutes, and complete relief of the pain was obtained in fifteen minutes. But it is needless to multiply cases.

NITRIC ACID IN INTERMITTENT FEVER.—Prof. Wm. A. Hammond publishes in the *Virginia and Maryland Medical Journal* for February, a table showing the results of forty-one cases of intermittent fever. He says, "The cases were treated at Fort Riley, Kansas Territory, in the post hospital, then under my charge, in a period of six weeks in Summer.

Upon referring to the table, it will be seen that in all forty-one cases were treated, ten of these being of the quotidian type, and thirty-one of the tertian. Thirty-two cases were treated with nitric acid, and nine with the sulphate of quinine. Of the cases cured by nitric acid, three had previously used quinine without effect, and of those in which quinine had proved successful, nitric acid had been employed without benefit in two, and in one other had to be omitted, on account of causing nausea, heart-burn, &c.

The average period of treatment before the disease was permanently arrested, was the same with each remedy—three days. The nitric acid was uniformly given in doses of ten drops, (properly diluted with water) three times per day; the quinine in doses of eight grains three times per day.

Since these cases were treated, I have very frequently employed nitric acid in the treatment of intermittent fever, and have rarely been disappointed in my expectations of its curative action. In fact, in simple uncomplicated intermittents, I have seldom had occasion to use anything else.

In cases of enlargement of the spleen, consequent upon attacks of the ague, the remedy in question, has in my hands, proved very advantageous."

HEPATIC AFFECTIONS.—Dr. Thudichum made some very interesting observations on the functions of the liver and the treatment of its diseases, before the Medical Society of London, in December and January, from which we make some extracts.

Nitric Acid.—In jaundice, with obstruction of the biliary ducts, we should make early use of nitric or nitro-hydrochloric acid. He had with great benefit, given a watery solution of nitrous acid. It is easily made, and may be drunk as a lemonade. This acid not only destroys and lixiviates the deposits of choleochrome (coloring matter of the bile) and other amido acids, but it also tones the digestive organs, and acts antiseptically. Nitric acid is frequently not borne, because not sufficiently diluted. The more it

is diluted, the sooner it is assimilated, and the more certain are its effects.

All liver diseases require the greatest attention to the intestinal canal. Mild purgatives, of salts, or fruit, scidlitz powders, water containing one per cent. of ordinary chloride of sodium and a little sulphate, are the best remedies. If stronger purgatives are required, the vegetable ones deserve preference. The fatal error of treating with mercurials the various disorders of the liver, Dr. Thudichum could not sufficiently deprecate. We want much less cholagogues than we require remedies to appease, subdue, and change the activity of the liver.

Mercurials.—The above remarks are extracted from the *Lancet* for January. In the February number, Dr. Thudichum has some further observations upon the treatment of diseases of the liver, and especially considers the question of the alleged effects of mercury upon that organ. Summing up his own and others' investigations, he says: 1. That mercury does not make its appearance in the bile when given in the form of calomel, has been proved by Mosler. One author has stated that he has found mercury in the bile. Even if it be so in some cases, there remains the fact that the quantity of bile is not increased by that agent. 2. H. Nasse, Kölliker, and H. Müller, found that the addition of calomel to food—which, under ordinary circumstances, produced a certain and normal quantity of bile in dogs—diminished the quantity of bile. 3. In nine cases out of ten, calomel, whether it purges or not, will diminish the quantity of bile secreted. Where it acts as a purgative, the diminution is most conspicuous. 4. Allowing that mercurials, particularly calomel, by their purging action, may relieve some disorders of the liver or other organs, or of the general system, this effect could be purchased at less cost by other purgatives, because the specific action of mercury was always hurtful, excepting in cases of syphilis. The mere fact, therefore, of cases of liver disease having been improved by the action of mercurials, is no proof of their specific advantage. 5. The green color of the stools after the use of calomel, has been erroneously considered evidence of an excess of bile in them. It is really due to sub-sulphide of mercury, just as the black color of stools following the use of preparations of iron, is due to sub-sulphide of iron. So much is proved. The green calomel stools contain a smaller amount of biliary coloring matter, than an equal amount of solid matter from healthy fæces. (When the fæces passed after a dose of calomel or blue pill become green, they also begin to scald the anus. This sensation has been ascribed to the bile, which was then believed to be passing. It is only reasonable to ascribe this scalding, not to bile,—which is not present—but to the sub-sulphide of mercury, which has been proved to be present.)

THE LARYNGOSCOPE is a new instrument invented by Professor Czermak, to aid in the diagnosis of obscure diseases of the larynx. Its plan is similar to that of the ophthalmoscope. It consists of a large concave reflector, optically ground to a focus of 10.1-2 inches, perforated with a small hole, to be held before the eye of the examiner, and throws the light strongly upon a small steel mirror which is held by a suitable handle over the pharynx or the glottis. In skilful hands it may prove a valuable instrument, but we can hardly believe it will come into general use. The *Lancet* says, "The value of the instrument has already been recognized all over the continent, and its employment has become general in the greater number of the public hospitals. It has been found that many cases of chronic hoarseness, aphonia, and affections of the larynx generally, have depended upon certain morbid alterations like excrescences, minute tumors, thickening and tumefaction, which have been distinctly seen by means of the laryngeal mirror. The aid of the laryngoscope in the diagnosis of these maladies, is therefore of the greatest value and importance."

We fear the facility for *treating* excrescences within the larynx, will hardly be attained, even after the most accurate diagnosis by the laryngoscope. But let it have a fair trial.

REDUCTION OF STRANGULATED HERNIA BY AID OF GRAVITATION.—In a case of oblique inguinal hernia, which was strangulated, in a man aged fifty-two years, Mr. Jessop, of Cheltenham, says: "I found my patient in a partial state of collapse, in a profuse cold perspiration, with great tension of the abdomen, and symptoms of hiccough and nausea coming on. He complained bitterly on my lightly attempting an examination; indeed the part seemed so exquisitely painful, as at once to negative all hopes of success from further direct efforts at reduction. An immediate operation was proposed, but firmly declined by the patient and his friends."

Calling in a male attendant, I directed my patient, still lying on his back, to the edge of the bed, and, with assistance, separated his legs, placing one over each shoulder of the attendant, who facing the bed, stooped to receive them; and in this position, by passing his hand round the fore part of the thighs, was enabled to obtain a sufficient purchase to permit of his raising him on to his head and shoulders on the bed. After two or three minutes manipulation of the abdominal parietes, I found the tumor become less tense, and drawing forward the integuments round the point of rupture, I made lateral, upward and downward movements—jerking, as it were, occasionally the parts immediately contiguous to the stricture. This seemed to excite little suffering; in fact the patient, so far from making complaint, declared himself, after the first two or three minutes, decidedly relieved. Continuing these efforts, and varying them as they seemed to occasion distress, I presently felt a slight gurgling under my hand, and al-

most immediately had the satisfaction of finding the hernia reduced, and my patient comparatively in a state of safety.

The whole proceedings did not occupy ten minutes. Slight peritoneal tenderness existed for some days, but the man eventually did well.—*London Lancet*, January.

A similar plan comes to us from France. In the Society of Surgery, Paris, Mr. Bouvier described the treatment of strangulated hernia by a method not commonly known: Swedish gymnastics, which consist in pressure and friction on the abdomen, the feet of the patient being in a more elevated attitude than the rest of the body. It would appear that this procedure has not yet been applied in France, except by Mr. Larrey. In 1849, this surgeon, having in vain attempted to reduce an incarcerated hernia, was about to resort to the knife. The patient, who had to be conveyed to the second floor, was carried feet foremost, his head being, in consequence, very much lowered during the ascent, Mr. Larrey instructed the bearers to shake the body of the patient, while he himself performed frictions over the tumor and abdomen. When the operating room was reached, the hernia was found to be reduced. (*Championnière's Journal*.)

OPIUM IN STRANGULATED HERNIA.—Dr. Bell and Dr. Davis have brought some interesting cases before us, which show the value of opium, either in the form of morphia or laudanum, in accomplishing the wished-for prostration. Dr. Bell gave half a grain of morphia, and repeated it in half an hour, with the desired effect. Dr. Davis gave a teaspoonful of laudanum, and repeated it in two hours; this second dose was followed by complete prostration of the muscular system, dilatation of the pupil, and the easy reduction of the hernia.

Mr. J. M. Walker, in a case of strangulated scrotal hernia, in a man of 45, in consequence of extreme tenderness, discontinued the taxis, but put him under the influence of opium. "I gave him two grains every fifteen minutes, until he had taken six grains, and used hot fomentations. Shortly after the first pill his vomiting ceased; and when I visited him again, two hours later, I found him, as he said, exceedingly comfortable. It was evident he was enjoying all the luxury of an opium-eater. Upon inquiry, he told me he had not touched the swelling, but that it had gone away of its own accord. (*Brailwaite's Retrospect*.)

CHRONIC MAMMARY ABSCESS.—A good illustrative case is now under the care of Mr. Coulson in St. Mary's Hospital.

S. T., aged twenty, single, a female servant, the history of whose affection dates back two years and a half. The treatment adopted was the following:—Scott's Ointment was applied to the breast on lint; strips of plaster an inch and a half in breadth, were then placed tightly round this dressing, and the whole was

carefully bandaged. Four days subsequently, Mr. Coulson caused the dressing to be removed and renewed. The improvement in the case was very marked, and the disease is fast progressing to a cure. (*London Lancet*.)

TREATMENT OF SIMPLE FRACTURES BY STARCHED BANDAGE.—The treatment of simple fractures of the extremities in the hospitals is now brought to a remarkably uniform system of an efficient but simple character, which leaves little to record or desire of novelty. There still exists, however, some difference in practice as to the application of starched bandages to the treatment of simple fractures. Occasionally we see this means employed within two or three days of the occurrence of the injury, in all ordinary cases of simple fracture of the lower extremities, including, with children, simple fracture of the thigh. Thus the period of confinement to bed is at once abridged to the narrow limits of two or three days, and the danger, tedium, inconvenience, and cost of protracted recumbence, are avoided on behalf of the patient and the hospital. Elsewhere, the starched bandage is employed very little, or at a later period.

The manner of applying the bandage does not vary greatly. Some surgeons surround the limb first with a layer of cotton wadding; others find it sufficient to pad the osseous prominences only. When employed at an early stage it is necessary to apply moulded pasteboard splints between the starched bandages, or some other similar stiffening material. The best preparation is composed of equal parts of gum, chalk and starch, rubbed through a sieve, and then dissolved and mixed in water. (*Ibid.*)

DISLOCATIONS REDUCED BY MANIPULATION.—We make a long extract, though as much condensed as possible, from the records of the Boston Medical Improvement Society, (published in the Boston M. & S. Journal,) because of the interest attached to manual reduction of dislocations, and on account of some useful points in the diagnoses brought out by Dr. Fifield, of Weymouth, who reported the case. "A boy ten years of age, dislocated his right femur into the ischiatic notch. The limb was greatly inverted, the great toe resting on the top of the ball of the left great toe, the right knee strongly in apposition with the left, from which it could not be much abducted. Measurement from the anterior superior spinous process of the ilium to the tip of the external malleolus gave half an inch shortening. The head of the femur could be indistinctly felt in the region of the ischiatic notch. Supporting the patient in an erect posture, the injured limb was seen to be widely separated from the other, not inverted in any marked degree, the foot pointing straight downward, resting on the toes; but the heel did not quite reach the floor.

"The patient having been completely etherized, I took the knee and ankle in my hands, flexed the thigh on the pelvis, so as

almost to touch the body, bent it over towards the left ilium, rotated it outwards, gave a slight lift with the hand at the knee, when with an audible shock, the head of the bone left the notch, and came upon the dorsum of the ilium. I then depressed the whole limb, and with another audible shock, it entered the socket. Measurements were now taken, and the two sides found to agree.

Three points in this case are worthy of notice: 1st. The position of the limb when the boy was held erect. Sir Astley Cooper's plate of dislocation into the sciatic notch, represents a man standing erect, leaning on a support with his right hand. The right knee is in *apposition* with the left, the great toe rests on the ball of the opposite one. In the present case the injured limb was widely separated from the other when the boy was held erect. The great toe, instead of pointing across the ball of the opposite one, was directed downwards, and the foot rested on the toes. The only resemblance left to the plate, was that the heel did not touch the floor. Why was this the only point of likeness left? Because it was the only thing left unaltered in its relation to the body by the altered position. Shortening (if I may be allowed the expression) *is* shortening, *must be* shortening, in any position of the body. Why was every other point of resemblance to the plate gone? Because the artist, having portrayed the position assumed by the limb when the subject was supine, imagined it must be the same when erect, which it is not. Whoever will attempt to support himself on one leg, will find that he leans towards that side, and that the opposite leg is thrust outward; that is, the pelvis has moved on the immovable head of the firmly planted limb. Thus, in this case, when the patient stood erect, it was not that the relation of the injured limb to the pelvis was altered, but that the relation of the pelvis to the sound limb was changed."

[In reference to Dr. Fife's observations upon the position of the limb, we would remark that when a sound man rests on one foot and throws the other outward, it is to preserve his balance. When his femur is dislocated, he rests on the sound limb, but being obliged to take hold of a chair to preserve his balance, he does not necessarily throw out his lame limb, because he gets no support from it, he could not throw it out, except in so far as he could move the pelvis with it. It may be carried out, with the pelvis, to some extent, but that is not the position in which he naturally stands. We think, with all deference to what Dr. Fife saw in that case, that when a man with this dislocation is set on his feet for examination by a surgeon, the position is almost invariably as figured by Sir Astley Cooper.]

2d. Another point of interest is the small amount of force required to effect reduction.

3d. I have said that the final reduction from the dorsum was effected by depressing the limb. From subsequent experiments with the skeleton, I think it would have been more philosophical to

have everted the limb still more strongly, as in that position the head of the femur more nearly approaches the socket than in any other. Effected in the former way, a slight pull would seem necessary.

"In regard to Dr. Fifield's interesting case, Prof. Henry J. Bigelow directed attention to the importance, after flexing the thigh, so as to carry the head after the femur behind the socket, of either twitching or slowly lifting the femur strongly upward during abduction, so as to jerk or lift it over the edge of the acetabulum into its place.

"Dr. Bigelow said that reduction is sometimes impeded by the state of the capsule, which may be slit on one side, so as to allow displacement of the articulation, while the remaining fibres hinder reduction. In such cases it is not muscular action alone that prevents extension; and the surgeon is surprised to find, after complete etherization, that the joint is still unyielding and irreducible, except by strong and protracted effort and manipulation." (*Boston Medical and Surgical Journal*.)

Who would suppose, after reading these remarks of Prof. Bigelow, that this explanation of the nature of the injury and the impediment to a reduction in dislocation, had ever been made before? It seems to come straight from the fertile brain of the speaker. And yet, Professor Moses Gunn, of the University of Michigan, published in 1853, some observations on this subject, embodying, in the clearest manner, the views expressed by Professor Bigelow above. They are of great value, because having a direct and very important influence on the treatment of dislocations. We may find room, hereafter, for an abstract of Prof. Gunn's papers on the subject.

THREE MORE DEATHS FROM THE INHALATION OF CHLOROFORM.—We find in our exchanges three cases of death produced by the inhalation of chloroform within the last six months. One occurred at the Northampton Infirmary, England; one in France; and one in the military hospital at Camp Floyd, Utah Territory. In each case, everything is reported to have been favorable for the inhalation, and the anæsthetic was said to have been cautiously administered; and in each case the most vigorous efforts were made for restoration, but without avail.

In reporting the case at Camp Floyd to the *Maryland and Virginia Medical Journal*, Surgeon John B. Porter safely remarks: "A remedy which requires so many rules and so much caution for its administration, must be regarded, to say the least, as not a safe article."

"Is it not about time that chloroform should be laid aside? Can any one pretend to lay down rules for its safe administration? (*Cincinnati Lancet and Observer*.)

"If the profession do not discontinue its use, patients will soon

refuse it. There is already, owing to its dangers, an increasing prejudice among the masses in regard to anæsthesia, in whatever manner produced; and if the use of chloroform, with its fatal accompaniments continues, the popular verdict will condemn anæsthetics entirely, preferring to suffer pain rather than incur such a hazard of life. (*Medical and Surgical Reporter.*)

EPILEPSY DEPENDENT ON INTOXICATION IN THE FATHER.—"From a certain number of facts which I have collected," says Mr. Demeaux, at the French Academy, "I am convinced that intoxication on the part of the male at the moment of conception, becomes one of the frequent causes of epilepsy in the offspring. Out of thirty-six cases of epilepsy in my practice, I have been enabled to ascertain from the confessions of the mother, that in five the fecundating process had been performed whilst the father was in a state of inebriety, and my assertions are based wholly upon the declaration of the mothers." (*Correspondence of the Lancet.*) Mr. Dehaut, in support of the same view, adduces the two following facts, which he considers conclusive: Young X., aged fifteen, has been subject to epileptic fits since the age of eighteen months. When this child was conceived, his father, a notorious drunkard, had been for nine days in a state of partial or complete intoxication. In the second instance, the father also pleads guilty to intemperance at the period of the child's conception. The subject, who has now reached his twenty-second year, has been affected with epilepsy from his infancy. (*Championnière's Journal.*)

RUPTURE OF THE MEMBRANES TWO MONTHS BEFORE DELIVERY.—We extract the following from the Proceedings of the Société de Chirurgie of Paris, of the 19th of December last, as reported in the *Gazette Hebdomadaire*:

"Sometimes there occurs during the last weeks or even the last months of pregnancy an intermittent serous discharge, the nature and origin of which have been a subject of dispute. Nægle thought it could not be the liquor amnii, but a liquid secreted between the membranes of the ovum and the uterus; this opinion was admitted by almost all authors, when a fact observed by Ingleby, and cited by him in a paper upon uterine hæmorrhage, reopened the question, and led to the belief that it was the liquor amnii. In the centre of the membranes the perforation was found which gave passage to the fœtus, and nearer the placenta another orifice which had given passage to the liquid. M. Dubois observed another case of the same nature: the small orifice of the membranes was of long standing, and its edges appeared cicatrized.

This state of the question was briefly presented by M. Danyau, who presented the after-birth of a woman delivered on the 12th of December, after having presented this serous discharge for fif-

ty-six days. The placenta was inserted near the neck; on one side was seen a large perforation, that which gave passage to the child, and at a point diametrically opposite, another small opening which had given vent to the liquor amnii. The discharge of this liquid can be intermittent, or more or less abundant, according as it makes its way more or less rapidly, or accumulates between the membranes, and the uterine parietes."

PROCEEDINGS OF SOCIETIES.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.—FIFTY-FIFTH ANNUAL MEETING.—The Society met, pursuant to statute, at Albany, on Tuesday, Feb. 5, at 11, A. M.

The President, Daniel T. Jones, M. D., delivered his inaugural address, in which he recommended a division into a medical and a surgical section.

A Committee on credentials was appointed.

Several delegates from the Connecticut Medical Society, who were present were invited to become the guests of the Society.

Other medical gentlemen present were invited to seats in the Society.

Voted to send eight delegates to the next annual meeting of the Connecticut Medical Society.

Voted to appoint a committee to consider the suggestion offered in the President's address.

Voted that a Committee of three be appointed to confer with the Senate Medical Committee, for the purpose of encouraging prompt legislative action in the establishment of a State "Commission of Lunacy," now under consideration in the Senate.

Voted to invite medical gentlemen of the Legislature to seats, as honorary members of the Society.

Dr. L. D. Seldon, of New York, was elected an honorary member.

The report of the Treasurer, Dr. Quackenbush, was read. The receipts for the last year amounted to \$216.15; the expenditures to \$71.74. An auditing Committee was appointed and reported.

A communication was presented from the N. Y. Academy of Medicine, embodying their resolution relating to the publication of the proceedings of medical societies in non-medical newspapers. Referred to Committee on Publication.

Dr. Quackenbush presented an interesting specimen of single placenta in a case of twins. The unusual points about the case were: 1. A single placenta. 2. A common envelope, a single chorion and amnion for both children. 3. The insertion of the two

umbilical cords almost together. 4. The length of each cord, which was 47 inches. The placenta was nine inches in length.

Dr. Howard Townsend presented the Report of the Committee on Medical Education. The principal point in the Report, which was a very good one, and will be referred to in a future number of this JOURNAL, was a recommendation of a far thorougher education of medical students, as a means of elevating the professional character.

Dr. Vanderpoel presented a paper, having for its subject the use of mercurials in acute pericarditis. Not only was the analogy between iritis and pericarditis fallacious, as far as the effects of treatment were concerned, but the order in which the symptoms occurred, and the nature of the efforts for recuperation in the latter disease, contra-indicated the use of any depressing agent.

Dr. J. G. Adams made a communication from Dr. T. G. Thomas, physician to Bellevue Hospital, of a remarkable case of suspended animation. The patient was a woman, the subject of hysterical convulsions, who was chloroformed while in the midst of a long convulsive seizure. After breathing the chloroform carefully and at intervals for five minutes, the pulse and respiration ceased suddenly, the lower jaw fell, and the eyes became fixed and glassy. No sound could be heard of heart or respiration. Cold water was dashed upon her face and chest, a strong draught of cold air was admitted, ammonia was applied to her nostrils, and the abdomen and chest were forcibly compressed—but without one sign of returning animation. Marshall Hall's method of artificial respiration was then practiced, and the legs and spine were rubbed vigorously with aqua ammoniæ. Artificial respiration was continued without intermission for twenty minutes, when a fluttering pulse was felt at the wrist. Under its vigorous continuance, the pulse became more evident, and the heart was heard to be slowly but surely resuming its function. No voluntary respiratory effort had occurred. But the rolling of the body being still continued, the galvanic battery was now applied to the pectoral muscles, to the neck, over the diaphragm, and in fact all over the chest. Instantly the muscles jerked, as if in convulsion; the eyelids flew open, the head was jerked back, respiration was soon established, and in ten minutes more Dr. Thomas had the inexpressible satisfaction of seeing the patient out of danger.

The time that elapsed before the first pulsation, was fifteen minutes by the watch. Dr. Thomas attributed the restoration to life to the immediate and long-continued practice of artificial respiration.

Dr. A. Van Dyck reported a case of complete inversion of the uterus taking place several days after labor, although, in his opinion, inversion had begun at the time of delivery. He discovered complete inversion eight days after delivery, the womb between the thighs, and about the size and shape of a goose egg. She

was placed on her left side, her knees drawn up, and with his right hand Dr. V. D. grasped the tumor—the fundus resting on the palm, when firm pressure was made, and the organ began to ascend. The hand was then carried into the vagina, and lengthened by straightening the thumb and fingers into a conical form; the fundus was dimpled, and thus carried through the os and cervix to its natural situation. The organ soon contracted, and the hand was gently withdrawn.

Dr. Bissell, of Utica, presented a very valuable and practical paper on endermic medication.

Dr. Squibb then presented the report of the Committee on the adulteration of drugs. This masterly report secured the undivided attention of the Society. He also presented the report of the Committee on Pharmacopœia revision.

Dr. Downs read a paper on a case of poisoning by corrosive sublimate, showing the inefficiency of the legislative enactment against the sale of poisons.

Dr. Finnell then presented a paper on a case of suicide, by wounding a small branch of the superior thyroid artery.

A lengthy discussion then followed on the subject of inversion of the uterus, in which many members took part.

At the afternoon session, Dr. Charles A. Lee made extended remarks on the same subject, including a relation of the points in the case lately on trial at Chicago.

Dr. Swinburne then read a practical paper upon simple extension in all kinds of fractures, and the discussion upon this paper closed the proceedings of the first day.

MORNING SESSION, WEDNESDAY FEB. 6.

The President, Dr. Jones in the chair. The minutes of the previous meeting were read and approved.

The Secretary, Dr. Willard, presented the following:

Whereas, The Medical Staff of the Asylums at Utica, Auburn, Bloomingdale, Canandaigua, and New York city, and the Asylum at Binghamton, about to be established, have no representation in the Society, therefore

Resolved, That a Committee shall be appointed to consider the expediency of the statute that shall entitle a delegate from each of these institutions.

Adopted.

A Committee was appointed, consisting of Drs. Willard, Quackenbush and Vanderpoel.

A communication was received from the County Medical Society of Chenango, and also from the Medical Society of Herkimer County.

The Committee on Credentials made their report, and asked for the sense of the Society, whether they should accept the credentials when they had been received from delegates previously

elected, as the New York delegation had been voted the power to fill their own vacancies.

On motion of Dr. Bissell, after several amendments, it was voted to admit the several delegates aforesaid to membership at this meeting.

On motion of Dr. Sprague, the sense of the Society was unanimously expressed, that no such power can be conceded to delegates by any county medical society, the statute of the State defining how and for what purpose delegates should be elected and vacancies filled.

Dr. Alden March read a paper on Compound Comminuted and Complicated Fracture of the upper end of the Tibia, in which a very interesting case of that injury was detailed.

Dr. John G. Adams followed with a paper on the Statistics of Suicides in the City of New York, as regards nativity, age, sex, color, condition, causes, mode of death, and the month in which they occurred, for the years 1859 and 1860.

Dr. Staats stated, that out of 500 cases treated by him in the Albany Penitentiary, where the blacks amounted to about seven per cent., he had never seen among them a case of delirium tremens or suicide.

A communication was received from Dr. Armsby, inviting the members of the Society to his house that evening, immediately after the delivery of the President's annual address.

Dr. J. McNulty read a paper on Tetanic Diathesis, in which were set forth the views published by him in a previous number of the Medical Times.

The Committee on the President's Address, reported unfavorably in reference to the proposed division of the Society into medical and surgical sections.

Dr. Hutchinson read a paper on Exsection of portions of the eighth, ninth and tenth dorsal vertebræ, and also presented a communication from the King's County Society.

The Secretary presented communications, entitled as follows :

Two Pairs of Twins, within one year and five days, by Dr. Barrows ; Suspected Poisoning, by J. G. Orton ; Bleeding in Cerebral Disease, by S. O. Vanderpoel ; Rupture of Uterus, with account of three cases, by G. J. Fisher ; Diphtheria, by Ferris Jacobs ; History of Madison County Medical Society, by A. L. Sanders ; Diphtheria, by U. Potter ; Rupture of the Womb, complicated with Strangulated Umbilical Hernia in a state of gangrene, by O. V. Barnet ; Memoir of Dr. Caspar Van Wie Burton, by S. D. Willard.

Dr. J. M. Minor, the Chairman of the Committee for the purpose of securing the proper execution of the U. S. Drug Law, asked for a committee of coöperation from the State Medical Society.

Dr. E. R. Squibb, offered resolutions to this effect.

On motion of Dr. Sprague, the meeting adjourned until a quarter past three P. M.

AFTERNOON SESSION, WEDNESDAY FEB. 6.

The minutes of the previous session were read and adopted.

Dr. Douglas Bly read a paper on amputation of the lower extremities with reference to artificial substitutes for the same.

Dr. Elisha Harris next read the report of the Committee on the Hydrography of New York State.

Dr. E. H. Parker, the Vice-President, made some remarks upon the extensive use of opium by the community as a luxury, and the injurious effects resulting therefrom, and concluded a very interesting detail of facts, by offering resolutions having for their object the prevention of its promiscuous sale.

The resolutions were adopted, and the following gentlemen appointed on a committee, with instructions to report on this subject at the next meeting: Drs. Parker, Jenkins and Hoff.

The meeting then adjourned to meet at a quarter past seven, and listen to the President's Anniversary Address.

DR. DANIEL T. JONES'S ANNIVERSARY ADDRESS.

After referring to the fraternizing influences of Medical Associations, and the leading influence of the National Congress of Physicians, the President proceeded to notice some of the evidences of the devotion of medical men to the high interests of their calling, as witnessed in their private and in their public acts. Taking a prospective view of the future destiny of the heart of the Empire State and the great central valley eastward, he dwelt upon the important relations of physical and mental progress in our country. He remarked that he firmly believed "that this country, this portion of North America, is destined, in less than a single century, to become numerically, physically, and morally greater than Europe or the remainder of America." And he added, "Six thousand physicians and more are in this State intermingling with this population, holding the keys of this destiny."

In referring to the former prevalence of marsh fevers, he attributed more to the improved treatment of the sick than to improvements in the drainage, and gave an interesting detail of his thirty-five years' professional experience in one of the most malarious districts of the State. He stated the interesting fact that, at the early day of his settlement at Onondaga, he was in the habit of giving *ten grains of quinia, by weight, at a dose*; and that for the cure of *remittent*, as well as *intermittent* fever. He declared, "I am certain that persons living out of malarious districts know little of the virtues of quinia; and that man who fears to give, in a dangerous attack of congested bilious fever, *eighty or a hundred*

grains during the apyrexial period, or in twelve or even six hours, is better employed in writing fiction than in teaching or practising medicine."

His picture of quacks and their patrons was happily and justly drawn. Severe was the conclusion that the proportion of such defective minds in every community, civilized or barbarian, is about the same. Learned or unlearned, such persons are distinguished for their hypertrophied credulity, and their unsettled opinions in morals and religion, as well as in medicine. They may be known by their mental and social tendencies to erratic views and practices in religion and politics too often. He took a favorable and hopeful view of the Medical Schools in this State, and he regards them as equal to the necessities of the profession.

Of medical journals, he expressed his high appreciation. Indeed it was refreshing to hear such sentiments from one of the oldest and busiest practitioners in the State.

"Already," said he, "do periodicals furnish the busy practitioner with the *larger* share of his professional reading; in them he finds a living panorama of the daily improvements in his chosen profession. Necessity, in the country, prompts to this."

The peculiar differences between country and city practice were commented upon, and a favorable opinion of the rural physician expressed. Common sense, and tender, human sympathies characterize the country practitioners of our State. Their relations to their patients and to families is of the most confiding nature. While the charities of the profession, in country and city alike, are such as no other class of men can give, they constitute a large proportion of his daily duties.

The results and certain advantages of country surgery were presented in a very favorable light, and an opinion expressed that the disadvantages of the bad air and crowding of city residences and hospitals greatly increased the perils of surgery, and render it expedient for country people to remain satisfied with country surgery under ordinary circumstances.

Country practitioners are not apt to relinquish that well-acquired confidence in the curative effects of medicines. Country babies have such advantages from maternal bosoms that they thrive, and if sick may usually be cured.

He observed that "it is not uncommon for eminent city practitioners of late, to lose their confidence in medicines. Some of them in their senility have not hesitated to *write it down*; thus showing conclusively one of two things—either that their perceptive faculties have become blunted by age, or that they were congenitally deficient! Extensive country practice surely has no such effect."

The address was as good as it was brief. It was characterized by the practical knowledge and common sense of the experienced country practitioner.

MORNING SESSION, THURSDAY, FEB. 7, 1861.

After the reading and approval of the minutes, Dr. SKILTON read a paper entitled Sub-peritoneo-pelvic Pregnancy.

Dr. J. MARION SIMS followed with a paper on Amputation of the Cervix Uteri, and also referred to the value of chromic acid as a caustic application to the os uteri.

On motion of Dr. QUACKENBUSH, the thanks of the Society were tendered to Dr. Sims, with a request to furnish his paper for publication.

The Nominating Committee next presented their report, and the election which followed resulted in the choice of E. H. Parker, President; A. Van Dyck, Vice President; S. D. Willard, Secretary; and J. V. P. Quackenbush, Treasurer.

Dr. J. R. WOOD moved that a sufficient number of extra copies of the Report of Dr. Howard Townsend, on Medical Education, be printed to furnish each State Society in this country, and each college with a copy. Adopted unanimously.

Dr. E. HARRIS offered the following resolutions, which were also adopted:

Whereas, the Code of Ethics of the AMERICAN MEDICAL ASSOCIATION is now recognized as the organic law of our profession, and the standard of medical morals throughout the United States, adopted by all associations having a representation in the National Medical Congress; and

Whereas, no systematic efforts have been instituted to indoctrinate the students and younger members of the profession in the elevating and luminous principles and teachings of the code:

Resolved, That it is of vital importance to the future character and welfare of our profession that medical students be thoroughly taught the nature and scope of this Code of Ethics, and the individual obligations it imposes.

Resolved, That the several medical colleges of this State be requested to incorporate in their course of instruction a brief and appropriate series of Lectures designed to unfold the duties which the Code enjoins, and to impress indelibly the moral and professional obligations which it enforces.

Dr. J. G. ADAMS presented to the Society a specimen of the new remedy for tænia, the *Myrzina Africana*, and described its mode of administration.

The Secretary presented the following communications, which were referred to the Committee of Publication: Report of Committee on Statistics by Dr. Orton; Reduction of Dislocation of the Femur, by Dr. Swinburne; Case of Fibrous Tumor of the Uterus, by Dr. Dayton; Bony Tumor within the Uterus, by Dr. N. C. Heusted; and Memorial from the Monroe County Medical Society.

Drs. Van Dyck and McMillan were appointed a Committee to report at the next meeting upon the subject of diphtheria.

On motion of Dr. GOVAN a vote of thanks was tendered to the retiring officers.

On motion of Dr. SAYRE the meeting then adjourned *sine die*.
(Abridged from the American Medical Times.)

BERKSHIRE DISTRICT MEDICAL SOCIETY.

The Society met in Pittsfield on the 20th of February. Owing to the storm, the meeting was held at the Berkshire Hotel, as more accessible than the Medical College. The weather did not, however, prevent a full attendance nor an interesting re-union.

Members Present.—H. H. Childs, C. T. Collins, H. S. Lucas, O. E. Brewster, R. C. Stiles, E. P. Starkweather, Geo. C. Lawrence, A. A. C. Williams, Wm. C. Bell, F. A. Cady, F. Meacham, W. Deming, jr., A. M. Smith, S. Duncan, J. L. Miller, H. M. Holmes, J. H. Manning.

After the adoption of the minutes of the last meeting, the President, Dr. Collins, addressed the Society on the subject of the "Climate of Cuba for Invalids," and related numerous incidents of his residence on that island during the past Winter.

A paper was read by the Secretary, communicated by Prof. Thayer, entitled "A Point in the Treatment of Asphyxia," which gave rise to an interesting discussion in which almost all the members present participated.

Dr. Alexander H. Stevens, of New York, was presented to the Society and invited to take part in its proceedings. His presence and authority lent them no little value.

Dr. Duncan reported a case of poisoning by corrosive sublimate, which also elicited discussion.

Several valuable specimens of morbid anatomy were presented.

Adjournment, after an interesting session of three hours duration.

The Society dined with Dr. J. L. Miller. After dinner addresses were made by John Todd, D. D., Dr. A. H. Stevens, Hon. Thomas F. Plunkett, Drs. H. H. Childs, C. T. Collins and J. L. Miller.

The full report of the proceedings, with the papers presented, will appear in our next number. By postponing the reports until after the adoption of the minutes at the following meeting, the record of the opinions of the members will be less liable to errors and the editors freed from much responsibility.

EDITORIAL.

In this number of the JOURNAL, we have reprinted entire from the *American Medical Times* the account of Dr. Sayre's method of treating hip-disease, believing, from the very favorable results which have attended it, and the interest which was manifested in the report of it at the meeting of the American Medical Association and since, that the space it fills is well employed. We would call attention to several reported cases of death from chloroform in our Monthly Abstract, and to a very remarkable case of restoration after suspended animation, in our report of the meeting of the N. Y. Medical Society. The meeting of that society appears to have been one of more than usual interest, and we anticipate a very good volume of Transactions. The Transactions vary extremely in their amount, and also in their value, in different years. The volume of the last year was small and meagre, when the resources of the State are considered.

We appear this month with a good variety of matter, representing, as far as our space allows, the subjects that appear to us to occupy most the minds of medical men at the present time, especially matters of the most practical character. With the aid of friends and subscribers, we trust we shall be able to render each number more desirable than the last. The friends of the enterprise will be glad to learn that our subscription list is steadily increasing. We look to them to see that it continues to do so, if they desire to establish the JOURNAL as a permanent publication.

COMPULSORY VACCINATION.

We conceive it to be of the highest importance that the Legislature should pass an act to compel universal vaccination. There is nothing in such legislation contrary to the spirit of civil liberty; for, as has been well said lately by one of our cotemporaries, an unvaccinated person is a public nuisance, and ought, therefore, to be abated. It is indispensable to the prospective eradication of small pox, or to any approach to it, that there should be permanent and steadily enforced laws for vaccination. Otherwise, when the disease has very nearly disappeared under the efficient operation of vaccination laws, a new generation, whose knowledge of small-pox is only traditional, and their dread of it consequently very little, will allow the preventive measure to fall into disuse

from pure indifference, or from an exaggerated estimate of danger attending its employment.

"The most numerous opponents of the process of vaccination," says the London Lancet, "will be found in remote rural districts, where small-pox has been almost entirely eradicated. There the *profanum vulgus*—a knowledge of small-pox being traditional—strongly object to, and resolutely oppose, the vaccination of their children, alleging as a reason for their refusal, the frequency of an eruption consequent upon vaccination. They do not deny its prophylactic power, but appear to prefer the distant possibility of small-pox, to (as they consider) the near probability of a troublesome eruption. A few cases in which serious disease has quickly followed the operation are eagerly seized upon, and an exaggerated description of the cases is spread far and wide. The popular mind is very prone to confound *post* and *propter hoc*. That an eruption does sometimes ensue upon the operation of vaccination cannot be denied; but it can be explained by the fact that the child is usually vaccinated either before or during the time of dentition—a period of infantile life very liable to eruptions of an eczematous or an impetiginous character."

No doubt our readers have all had a similar experience—nothing is more common than to find in patients a great dread of the introduction of some other disease along with vaccine virus, and nothing is more unfounded. There is a certain proportion of the population at least, who will on such or other grounds refuse to be vaccinated; and no enlightened man, in the profession or out of it, can doubt the propriety of legislation suited to protect the community from such dangerous persons.

It is to be presumed that the greatest difficulty hitherto met with in attempts to procure legislation, has arisen from a misconception of the merits of the case—which it is the duty of medical men individually and collectively to remove. The Boston Sanitary Association is beginning its operations in this direction, and should have all the support that the medical profession can give it.

Successful legislation in Massachusetts will aid in the accomplishment of similar reforms in other States. Efforts thus far made in New Hampshire by medical men, have been unavailing. At the last annual meeting of the N. H. Medical Society, in June, 1860, we offered a resolution that a committee should be appointed to memorialize the Legislature, then in session, upon the subject. In conjunction with a member of the House, a bill was drafted, making it a condition of admission to any public school that a certificate of vaccination from a regular physician should be presented—the act to take effect in every town which should vote in regular town meeting to adopt it. Thus guarded, there would seem to be no objectionable feature in the bill, on the score of despotism, which is the great stumbling-block that obstructs most reformatory propositions. It was presented to the House and

passed by a large vote through all its stages, but was unfortunately voted down in the Senate.

We are not prepared to assert that the plan proposed is the best one that can be offered. It has been a law in Boston for many years, and we have reason to think that were it not for the weekly arrival there of unvaccinated immigrants from the rural districts and especially from other States, it would have been sufficient to prevent the appearance of variolous disease almost entirely in the city. If any better plan can be devised, the medical profession and the community ought to know it. Our columns are freely offered to any gentlemen who have anything to say upon the subject. In our opinion, the Boston plan is the most practicable, and would be found sufficient, were it only extended over the whole country.

The *Chicago Medical Examiner* for January complimented our judgment by copying seven of the eight "selected articles" which were printed in our *JOURNAL* of that month. But it forgot to offer us the salutations which are rather natural on the occasion of the appearance of a new periodical, or to extend the hand of fellowship which, considering the trouble we saved him in collecting the material, we think we deserved. Dr. Holmes, in the report on Medical Literature which he made to the American Medical Association in one of its early years, describes the universal currency of articles through the medical journals, by saying that the editors sit in each others' laps in one continuous ring, no one at the bottom. Such an arrangement is natural and proper—it is desirable that the best articles should be kept in circulation till the whole profession has seen them; and we hope always to furnish our quota to the common stock. But when an editor plants himself so heavily in our lap, it would be no more than civil to acknowledge our existence by a kindly greeting. What says Prof. Davis to that?

CHLORATE OF POTASH.

This substance has come within a few years to be a medicine of first-rate importance. We have experienced great satisfaction in its effect upon aphthous stomatitis in children, ever since we read the recommendation of it by Dr. West in his lectures in the *London Medical Gazette*. It has also proved very valuable in our hands in some varieties of stomatitis in adults. And now within the last two years we have employed it in large doses in diphtheria.

"Chlorate of Potash was originally employed as a medicine for supplying oxygen to the system, where a deficiency of that principle was supposed to exist." (*Pereira's Materia Medica*, 1849.)

With this view it was employed at different times in a variety of diseases. Pereira considered that as it was found in the urine of persons who had taken it, it was proved to furnish no oxygen to the system. It is possible, nevertheless, that a portion of it may be decomposed. There are some cases that give color to the probability that it does furnish oxygen to the system under some circumstances, if not all. In some cases of dyspnoea, either from advanced phthisis or intense pulmonary congestion, great relief has been obtained by the use of large quantities of it. It has been inferred, and not unreasonably, that the effect was due to oxygen furnished to the blood by its decomposition.

Dr. Fountain, of Davenport, Iowa, believes that it has curative power in tuberculous affections. A paper which he read to the Section of Practical Medicine of the American Medical Association at the last annual meeting, designed to illustrate the effect which he claimed in several cases of phthisis, was hardly convincing, for want of sufficient details of the cases to allow the members who heard them to judge of the accuracy of the diagnosis. The spirit of the author of the paper was of the very best kind, and if the cases he presented were unconvincing in relation to the curative action of the chlorate of potash, there could be no doubt that he would either succeed in establishing its efficacy by future investigations, or would frankly and promptly acknowledge his faith in the medicine to be unfounded, as soon as he was satisfied with his trial.

No doubt, hundreds of practitioners will be (if we may be pardoned the vulgarism) "quacking it" with chlorate of potash in phthisis before a twelvemonth has passed, for which Dr. Fountain is not responsible, having unquestionably the best intentions. But let it be fairly tried, though it prove illusive to thousands of phthisical sufferers, before it is sent to the tomb of the Capulets, with the hypophosphites and all the other ignes fatui that have led so many up and down to leave them in despair at last.

In the *American Medical Monthly* for February, Dr. Fountain has published another paper on the subject. It is an interesting "Report of Cases of Phthisis, Scrofula and other Diseases treated by the Chlorate of Potash." The cases establish the opinion that the medicine is a "tonic, alterative and blood-depurant" of a high character, but fail to add any further evidence to the expectation of permanent relief in tuberculosis of the lung. In the cases of phthisis detailed, there was marked temporary improvement, such as follows cod-liver oil in very many cases, but no evidence of any superiority to that medicine. The subject deserves careful investigation, which Dr. Fountain indeed desires.

His paper is partly devoted to a defence against the objection which has been made to the medicine in question, that it is liable to derange the digestive organs and produce diarrhoea. He claims that all such effects are traceable to impurities in the drug, and

instances some cases in support of his opinion. We can readily believe him to be correct in this; the demand of chlorate of potash is probably a hundred times as great in this country now as it was two years ago, and its adulteration having become profitable, it is more than probable that much of what is now sold is impure. Whatever may be its impurities or its adulterations, it is easy to understand that the digestive apparatus might be deranged by them, when we consider the large quantities in which it is administered. We have, ourselves, seen lately a dirty-looking specimen of it, very different in appearance from that we have been accustomed to use.

Dr. Fountain furnished last year sufficient evidence of its innocuousness when pure, in swallowing at a draught a solution containing an ounce of it, without experiencing any new sensations or discovering any medicinal results. And we may add our own testimony to its freedom from all bad effects in pretty full doses in various affections of children and adults.

MEDICAL NEWS AND MISCELLANY.

ALEXANDER N. GUNN, M. D., Health Officer of the Port of New York, has been re-appointed to that office by the Governor and Senate. The Medical Times says, "his re-appointment is regarded as gratifying testimony to his personal and political integrity. The plans for reforming our Quarantine system having been definitely settled by the National Quarantine and Sanitary Convention, and the views and necessities of the commercial community having been clearly set forth by the Chamber of Commerce, the responsibility of encouraging and officially aiding the work of reform is now thrown upon the Health Officer; and by a cordial and fearless discharge of this duty, he may be instrumental in giving to the city and port of New York such an improved sanitary system and such reforms of Quarantine as the necessities of this great centre of population and commerce now require. A greater privilege or a higher honor no physician could desire."

CITY PHYSICIAN OF BOSTON.—Dr. J. S. Jones has been elected to this office in place of Dr. Henry G. Clark, who declined a re-election. "The office," says the *Boston Medical and Surgical Journal*, "has been greatly honored by the late incumbent, and his valuable contributions to sanitary science have inspired the respect of the whole profession."

CHAMPIONNIERE'S JOURNAL OF PRACTICAL MEDICINE AND SURGERY. H. CHAILLOU, M. D., EDITOR.—This is the title of a monthly journal of thirty-six pages, of which an English edition is published in Paris, simultaneously with

the French edition. It is admirably conducted, and contains principally original matter; being devoted chiefly to hospital and society reports. It is well worth the liberal encouragement of the profession in this country, as presenting a view of the most interesting scientific matters in France, and especially in Paris. It may be had of A. Williams & Co., 100 Washington Street, Boston, or of Dawson & Son, Montreal, Canada. The subscription price is three dollars a year.

THE BOSTON SANITARY ASSOCIATION was organized in April, 1860, through the instrumentality of gentlemen who were constantly observing that the annual rate of mortality in the large cities, was on the increase, and the general health, especially of the young, steadily deteriorating, and hoped by association to arouse the community to the adoption of measures calculated to diminish the causes of disease. The first article of the constitution of the Association, reads: "The objects of this association shall be the improvement of the sanitary condition of the people, and, so far as connected therewith, the advancement of their economical and moral interests:—*First*, by promoting the investigation of facts and principles relating to personal, domestic, and public hygiene; *second*, by diffusing information on the laws of health and life, and the best means for their practical application; *third*, by such other influences and agencies as may be deemed expedient."

The first annual meeting was held in Boston on the 17th of January, when Dr. Jarvis of Dorchester, made an address. Another meeting was held a fortnight later in Representatives' Hall, which the legislature has wisely granted for the purpose. At this meeting, two papers were read on the subject of small pox and vaccination. The first one was by Dr. Robert Ware, and was chiefly devoted to a history of small-pox in Boston, and the legislation in regard to it. The writer concluded his paper with two points for the consideration of the Association—the first, in regard to the propriety of the removal of those attacked to special hospitals; the second in regard to the necessity of more efficient means of securing general vaccination.

The second paper was read by Dr. J. C. White, on "The Introduction of Vaccination, and its Influence upon the Mortality from Small-pox."

A committee was appointed to memorialize the Legislature for action in regard to the subject. The next meeting was announced for Feb. 14th, when Dr. Jarvis of Dorchester was to speak on "The Interest and Responsibility of the State and General Government in the Health of the people."

OBSTETRICAL SOCIETY OF BOSTON.—A society under this designation has lately been formed in Boston, for the purpose of cultivating a knowledge of obstetrics, and the diseases of women and children. It is to meet bi-monthly. The officers for the first year are Walter Channing, President; D. Humphreys Storer, Charles G. Putnam, Vice Presidents; William Read, Recording Secretary; Benj. E. Cotting, Corresponding Secretary; Charles D. Homans, Treasurer; Charles E. Buckingham, Anson Hooker, John P. Reynolds, Prudential Committee.

This makes the fourth of the Medical Societies for scientific purposes in Boston, the others being the Suffolk District Medical Society, the Boston Society for Medical Improvement, and the Boston Society for Medical Observation.

N. Y. STATE MEDICAL SOCIETY. ALBANY, FEB. 6, 1861.—The State Medical Society opened its fifty-fifth anniversary at the City Hall, Albany, yesterday morning. Permanent members and delegates have already registered their names, and entered upon the business of the session. The President of the Society, Dr. Daniel T. Jones, offered a brief and sensible address. He suggested an improvement in conducting business, which has already been shown, in the progress of affairs, to be of practical importance, viz: a division into medical and surgical sections. Voluminous papers, special reports, and a great variety of resolutions, with discussions that might be interminable, but for the faithful attentions of the Professor of Brevity, as one of the older members is facetiously denominated.

A great variety of papers and reports have been presented, and a still larger number are yet unread.

The opening hour of the afternoon session having been allotted to Dr. C. A. Lee, for the presentation of his views upon inversion of the uterus, the Society listened to his account of the noted Chicago case, in which the Doctor was called as an expert. Dr. Swinburne then read a practical paper upon simple extension in all kinds of fractures. That young surgeon evidently possesses the proper inventive and mechanical tact for good surgery. The question having been raised, as to what degree of extension or force may be borne without completely separating the fractured ends of the bone, Dr. Bly, of Rochester, related the results of his experiments to demonstrate the degree of extensibility of muscular tissues in the limbs of dead animals. He claims to have produced in the leg of a dead sheep, an extension of its muscles amounting to half an inch. The older and more experienced surgeons very kindly reviewed and criticised the peculiar hobby of the paper; and finally its author found it very difficult to defend his exclusive practice of simple extension. Indeed, upon further discussion, the fact appeared that even Dr. Swinburne resorts to lateral support to the fractured limb in particular cases. The faithful analysis to which the interesting surgical question was subjected by Dr. James R. Wood, constituted the most interesting event of the first days' session. (*Correspondence of American Medical Times.*)

NEW AMERICAN CYCLOPEDIA.—Our attention was accidentally drawn the other day to the article "Diphtheria" in this work, and we were very much disappointed at its unsoundness. If this be a fair specimen of its scientific articles, the Cyclopædia has very little value as a work of reference in that department. The miscellaneous articles are contributed by so many different writers, that we need not infer any deficiency in the general character of the work from failure in one class of subjects; but it is to be regretted, that in a work which aspires to a national character, there should be any marked inferiority in any of the articles. Authority and scientific accuracy are certainly to be preferred to mere fluency of style in a Cyclopædia.

ELECTRICITY.—At a late meeting of the Polytechnic Association of the American Institute, N. Y., Dr. Vanderweyde read a paper upon the different methods of producing and using electricity to ignite inflammable substances, which he illustrated by exhibiting and explaining apparatus used for that purpose, and by experiments. In the course of his remarks, he stated that it is at present a common experiment, that the rubbing of the feet on the carpet in a very dry room will produce electricity enough to charge the person with it, so that by touching the gas burner with his finger, the experimenter may produce a small spark, which will ignite the gas. (*Scientific American.*)

DIPHTHERIA.—Dr. Kneeland of South Onondaga, N. Y., reports the moderate prevalence of this disease in his neighborhood since July last—which he describes in a very sensible paper in the *American Medical Times*. The same number of that journal contains a letter from Dr. J. B. Greeley, of Nashua, N. H., in which he says that diphtheria has prevailed extensively in that city for the past four months. It appears from an article by Dr. R. R. Livingston, that it is also prevalent in Nebraska—to what extent we have no information. Other exchanges indicate that it is seen more or less in Missouri, Kentucky, and many other States. A few cases have been seen in Keene, Winchester and other towns of Cheshire county, N. H.; and a similar experience we are inclined to think, could be related by physicians in all parts of the States. We do not hear of any very extended or grave epidemics, and believe that many of the reports respecting it in the newspapers, are much exaggerated. There are few medical journals in this country that have not, within three months, published articles on this subject—and a large portion of the medical profession must, therefore, be sufficiently well prepared for its appearance, to save them from being taken by surprise.

ISOLATION OF PERSONS AFFECTED WITH SMALL-POX.—At the regular meeting of the Suffolk District Medical Society, held on Saturday evening, February 23d, the following resolutions were adopted with hardly a dissenting voice:

Resolved, That in the opinion of the Suffolk District Medical Society, the history of the late epidemic of small-pox in Boston, and also the history of the disease for the last fifty years, show satisfactorily that the means for its prevention, as now in force, are insufficient for the purpose.

Resolved, That the present measures for enforcing the general practice of vaccination and re-vaccination in the city, and more especially in the interior of the State, do not seem to have been fully adequate for the purpose.

Resolved, That the repeal of the provisions in the statutes by which patients with small-pox and varioloid were restricted from communication with others, has tended to increase the extension of the disease; and that the Society are of opinion that isolation of persons infected with small-pox would, under humane and wise provisions, promote public health and diminish mortality. (*Boston Med. and Surg. Journal.*)

AMERICAN MEDICAL ASSOCIATION.—The Fourteenth Annual Meeting of the American Medical Association, will be held in Metropolitan Hall, City of Chicago, commencing on the first Tuesday in June next.

Every regularly organized Medical Society is entitled to send one delegate for every ten of its members; and each Medical College is entitled to two delegates. It is desired that the names of delegates should be forwarded to the undersigned as soon after their appointment as practicable.

H. A. JOHNSON, Assistant Sec'y.

Chicago, Feb. 1st., 1861.

Editors of Medical Journals, please copy.

DR. GIBBS' SECOND CIRCULAR.—The undersigned would respectfully tender his thanks to the Editors of those medical journals who have so kindly noticed his proposed enterprise, in regard to the publication of a *Year-Book of American Contributions to Medical Science and Literature*. He is confident that such a work is needed by the profession, and is demanded by the honor of American medicine. In America, there are no *Abstracts* or *Retrospects* corresponding with those of *Ranking* or *Braithwaite*. These, though valuable productions, are in no manner representatives of American medicine. The gleanings in these are almost entirely confined to journal literature, whereas it is proposed to give in the *Year-Book* a synopsis of all medical matters of importance found in journals, Society transactions, monographs, books, &c., pertaining to medicine having an American origin, and published during the year immediately preceding. As stated in a former circular, to fulfil his design, the undersigned wishes all medical journals, society transactions, and medical books, of recent issue, sent to his address. A few are yet wanting, to which omission he asks the attention of authors and publishers. What he wishes more particularly to say at present is, that he cannot publish without a greatly increased subscription list. To American physicians he appeals in behalf of American medicine, and trusts they will promptly respond to his former circular. Otherwise his enterprise must fail for want of encouragement. Subscribers' names, books, &c., to be directed to

O. C. GIBBS, M. D., Frewsburg, Chautauqua Co., N. Y.

EXCHANGES RECEIVED FOR THE MONTH:

Boston Medical and Surgical Journal; American Medical Times; American Medical Monthly; Maryland and Virginia Medical Journal; Cincinnati Lancet and Observer; St. Louis Medical and Surgical Journal; Cincinnati Medical and Surgical News; Dental Register of the West; Journal of Materia Medica; Chicago Medical Examiner; Medical and Surgical Reporter.

PAMPHLETS RECEIVED:

Luxations of the Hip and Shoulder Joints, and the Agents which oppose their Reduction; by Moses Gunn, A. M. M. D., Prof. of Surgery in the University of Michigan.

An Uramic Intoxication; by Wm. A. Hammond, Prof. of Anatomy and Physiology in the University of Maryland.

THE

BERKSHIRE MEDICAL JOURNAL,

EDITED BY

WM. HENRY THAYER, M. D., AND R. CRESSON STILES, M. D.

"Ore trahit quodcunque potest atque addit acerco."

VOL. I.

APRIL, 1861.

NO. 4.

PROCEEDINGS OF SOCIETIES.

MASSACHUSETTS.

BERKSHIRE DISTRICT MEDICAL SOCIETY.

Feb. 20th. After the reading and approval of the minutes, the President, C. T. Collins, expressed the satisfaction he experienced in again taking his place at the meetings of the Society. He congratulated it on the increased interest manifested in its proceedings, and its prospects of enlarged usefulness; spoke of the advantages of combined effort; contrasted the readiness with which members now broke away from their round of duties, each bringing the results of his experience, and throwing it into the common stock, with the isolation and apathy formerly manifested. Each one now felt an interest in the new and wonderful conquests of medical science; a medical journal was now considered the most profitable of a physician's investments; an intelligent community is not slow in recognizing the contrast between a thinking and observing physician, one zealous in his profession, and the mere routinist. He spoke of the high character sustained by the profession in Berkshire County, and called upon the members for a generous support of their local institutions.

The American Medical Association had exerted a most beneficent influence. On his return from Cuba, he had proposed visiting the southern section of our country; political convulsions had changed

his purpose, but science knows no geographical boundaries, recognizes no partisan leaders; he hoped the integrity of the American Medical Association might not be affected by sectional strife.

He thought the oppressive languor of the climate of Cuba unfavorable to consumptive patients. During his stay in Havana in December and January, the mercury usually stood at 73° Fahrenheit at 7 A. M.; by 10 A. M., it rose to 80°. On one occasion only he found it as low as 70° at 6 A. M. To one who had been accustomed to the bracing atmosphere of the Berkshire hills, there was a feeling of oppression in spite of the balmy breezes and the attractions of a never-ending summer, which are the same now as when Columbus was enchanted with the island. He thought the climate of Berkshire much better calculated to invigorate an enfeebled frame.

Dr. C. gave an account of the medical regulations and customs in Cuba; of his visits to the public hospitals, and those on the plantations for negroes. He concluded with a tribute to the memory of Dr. Kane, whom he had seen in Berkshire County shortly before his Arctic expedition, and who died in Cuba within a month from the time he landed on the island.

The Secretary then read a paper communicated by Dr. Thayer, entitled "A Point in the Treatment of Asphyxia," as follows:

A Point in the Treatment of Asphyxia.

In the report of the Society's proceedings, published in the *BERKSHIRE MEDICAL JOURNAL* for January, I see that one of the members advocated "the necessity of keeping up the heat of the body during suspended respiration." As this is quite different from the plan which I have always been in the habit of following, I have thought it worth while to present another view of the subject to the Society, and therefore prepared a brief paper, which I beg leave to offer to their notice.

I have not very often had occasion to treat asphyxia, either in adults or in the newly-born; but when I have had such a case, my course has invariably been to expose the body to the air at a temperature considerably below that of the natural heat of the surface, during the continuance of the efforts for restoring respiration. As soon as respiration is established, the body requires the protection of warm clothing, and in the newly-born especially needs the most thorough covering from the air.

I was led to this course first by the experiments of Dr. Edwards, Sir Astley Cooper and Mr. Nunnely, upon the submersion of warm-blooded animals in water at different temperatures, as published in Hodgkin & Fisher's translation of "Edwards on the Influence of Physical Agents on Life. London. 1832." And the correctness

of the method has been confirmed by my own experience, and that of various authorities to whom I shall presently refer.

Dr. W. F. Edwards of Paris, in repeating some experiments made by Buffon and Le Gallois, to ascertain the various tolerance of submersion by animals at different ages, noticed that the choice of *temperature* of the water in which the animals were submerged, had a considerable effect upon the continuance of life. He says, "I subjected some kittens a day or two old to comparative experiments. In water cooled to 32° Fahrenheit, they ceased to give signs of sensibility or motion after four minutes and thirty-three seconds, taking the mean of nine immersions. At a temperature of 50° Fahrenheit, the duration of life extended to ten minutes and twenty-three seconds. At 68° Fahrenheit, it increased considerably, being on an average thirty-eight minutes and forty-five seconds. At 86° Fahrenheit, a retrograde course commenced, as they lived but twenty-nine minutes. Lastly, at 104° Fahrenheit, they lived ten minutes and twenty-seven seconds.

"It may be remarked, that the degree most favorable to life, in the circumstances in which the kittens were placed, may with reason be considered a cold temperature. A bath at this degree commonly produces upon our bodies a very lively sensation of cold. The change of the external temperature either above or below this degree, produces deleterious effects, but in different proportions: a rise from 68° to 104° is necessary to produce the same effect as a fall from 68° to 50°. Similar experiments upon puppies of the same age lead to the same result."

Mr. Nunnely's experiments were upon kittens seven days old, in water of different temperatures, with the same general results. Sir Astley Cooper's experiments were similar, but after respiration had ceased the animals were removed from the water, the thorax was opened, and the continuance of the heart's action noted. Briefly stated, they were as follows: 1. A young puppy was immersed in water at 120° Fahrenheit. The action of the heart ceased in eleven minutes. 2. A kitten was immersed in water at 100° Fahrenheit. Twelve minutes afterwards, no action of the heart was observed, or could be produced by any irritation. 3. A puppy was immersed in water heated to 90° Fahrenheit. All action of the heart ceased at twenty-seven minutes. 4. A puppy of the same age was immersed in cold water. The heart continued to act for thirty-four minutes. 5. A kitten was put into cold water. The heart continued to act for forty-two minutes. 6. A puppy was immersed in water at 56° Fahrenheit. The heart's action continued twenty-nine minutes.

These experiments, so very marked in their results, have led most physicians, since they were made public by Dr. Edwards, to apply the principle which they illustrate to persons asphyxiated by any means, whether by hanging, drowning or inhaling carbonic acid gas, and to still-born infants.

While the heart continues to act, though feebly, there is always a very good prospect of restoring the patient, whether newly born or adult, by sustained artificial respiration. But until natural respiration is established, it is requisite that the surface of the body should be kept cool—or, according to the experiments quoted, between 60° and 70° Fahrenheit. An ingenious explanation is furnished by Mr. Snow, who supposes “that the deleterious effects of heat in suspended respiration depend upon its stimulating the capillary circulation, and thus promoting the deoxygenation of the blood in a more rapid manner than would be the case when the surface was cool.”

As death in asphyxia is produced by the circulation of venous blood, so the slower the process of carbonization, the later will be the cessation of life. An illustration will suggest itself to all, in the fact that when a man falls overboard, either in a state of syncope, or is stunned by a blow received during his fall—so that being insensible, he makes no voluntary efforts at respiration—he may remain submerged a remarkably long time without being past resuscitation; owing evidently to his circulation having been moderate in the interval, and the deoxygenation of the blood correspondingly gradual.

In looking up authorities on this important point, I find them almost exclusively in Braithwaite's *Retrospect*, from which I shall quote briefly all the reports and opinions that bear upon the question:

“We cannot but agree with Dr. Edwards and Mr. Snow in their views respecting the best mode of resuscitating drowned persons, and children that have been still-born. Dr. Edwards has certainly shown that asphyxia takes place more rapidly at blood heat than at inferior temperatures. By putting a patient into a warm bath during a state of asphyxia, we cause the system to require more oxygen, [by increasing the activity of the circulation,] and must, therefore, increase the asphyxia, and hasten death, unless respiration is by the stimulus reestablished. This seems to be very much confirmed by the want of success in the Royal Humane Society, where warmth is generally employed; whereas, some time ago, when less energetic measures were taken to restore the warmth of the surface, persons were frequently restored who had been submerged ten minutes, and in one case even twenty minutes. The surface of the body should be kept cool until respiration is reestablished, in order that as little as possible of the oxygen that remains in the system may be consumed.” (*Braithwaite's Retrospect*, Part V. p. 48.)

Dr. Edwards says of persons asphyxiated by breathing an excess of carbonic acid: “The temperature of the body must be reduced, the patient must be withdrawn from the deleterious atmosphere, stripped of his clothes, that the air may have a more extended action upon his skin, exposed to the cold, although it be

winter, and cold water thrown upon his face until the respiratory movements reappear. This is precisely the treatment adopted in practice to revive an individual in a state of asphyxia. If, instead of cold, continued warmth were to be applied, it would be one of the most effectual means of extinguishing life. This consequence, like the former, is confirmed by experience.

"In sudden faintings, when the pulse is weak or imperceptible, the action of the respiratory organs diminished, and sensation and voluntary motion suspended, persons the most ignorant of medicine are aware that means of refrigeration must be employed, such as exposure to air, ventilation, sprinkling with cold water, &c." (*Edwards on the influence, etc.*, p. 149.)

In this latter example, the exposure to cool air has, of course, the additional intention and effect of stimulating the respiratory nerves to action—but it is no less an instance in point.

"Mr. Erichsen recommends, in the treatment of asphyxia, that a certain degree of warmth, (from 85° to 90°) be applied, but not the high temperature of 98° or 100°, which is too often used. This advice is agreeable to the experiments of Edwards, who has proved that the higher the temperature of the body, whether natural or artificial, the more oxygen is consumed—and therefore in a case of asphyxia, a low or moderate temperature will certainly be safer than a high one." (*Braithwaite's Retrospect*, part XI. p. 41.)

Dr. Marshall Hall, in the course of directions for relieving asphyxia by artificial respiration, says, "All other measures are subsidiary; all which exclude respiration, are destructive, and the warm bath is doubly fatal, first, by excluding rotation, and secondly, by promoting the circulation of carbonic acid." (*Part xxxv. p. 47.*) The italics are his own.

Some physicians employ warm water for a minute or two at a time, merely for the purpose of a shock, fully aware of the impropriety of continued heat in such cases. Thus, Marshall Hall, in the same article, says, in regard to still-born children, "Sprinkle the surface with cold water. * * * Repeat the sprinkling with cold and hot water alternately." Dr. Ramsbotham says, "If the vessels of the funis are beating, do not divide it, but give the infant a few smart smacks on the back; if there be no pulsation, separate immediately, and immerse for two or three minutes in warm bath of 95° or 98°. It is dangerous to keep the infant in warm water for any length of time together; for it has been proved that animals will drown much more quickly in hot than in cold water." (*Part xxxv. p. 43.*)

Another writer says, "Restored respiration is to the blood-poison in asphyxia, what the stomach-pump is to poison in the stomach; and it is the special remedy, the *sine quâ non*, in asphyxia. But this blood-poison is formed with a rapidity proportionate to the temperature. To elevate the temperature, or to accelerate the circulation, without having first secured the return of respira-

tion is therefore not to save, but in reality to destroy life." (*Part. xxxiii. p. 88.*)

Thus it will be seen that the method here described is based not merely on comparative experiments, but upon the experience of practical physicians and obstetricians. We are justified in the conclusion that when the surface of a still-born child is kept at a high temperature by hot air or water, restoration will be very doubtful, unless natural respiration is speedily established.

Dr. Stiles objected on theoretical grounds to the conclusions of *Dr. Thayer's* paper. The authorities he had cited gave too much weight to erroneous deductions from the experiments of *Edwards*. The case of an animal immersed in water was very different from that of one from whose lungs the air had been simply cut off. In animals immersed in cold water, there was a spasm of the glottis which effectually prevented the entrance of the water into the lungs, whereas, when immersed in water at 100° Fahr., no spasm occurred, and the water entered the lungs freely. It had been proved by the experiments of *Beau*, that an animal whose trachea was kept open, would die much more speedily from immersion in water than one on whom no such operation had been performed, because the lungs instantly filled with water. Also endosmose was more rapid at a high temperature.

Bernard had proved that the capacity of the blood for gases diminished as the temperature fell below 100°; also, that the toxic influence of venous blood was not due to the presence of carbonic acid as much as to the absence of oxygen. He thought, therefore, that when the temperature of the blood was lowered by the influence of cold and evaporation, the system could not utilize the amount of air which obtained access to the lungs as well as when the body was kept at 100 degrees. That a depression of a few degrees in the heat of the blood was sufficient to produce death in warm blooded animals; that a less depression would produce a benumbing effect upon the nervous system, and prevent a restoration of the irritability upon which the reestablishment of natural respiration depended.

That the reports of obstetricians were not to be relied upon, for there were no statistics on the subject of a sufficient number of cases to establish anything—that the question of viability or non-viability had not been investigated in this connection. That the partisans of the two opposite methods of practice were equally positive in their opinions.

Dr. Miller was of the opinion that water never entered the lungs in drowning, whether warm or cold. Wished the question investigated.

Dr. Stiles said the air passages were constantly moistened with liquid at blood heat, and no spasm occurred. Promised to experiment and report the result of his researches at a future meeting.

Dr. Duncan said that endosmose of the water must be very slight after the flow of blood through the lungs had been checked. That large quantities of water had been injected into the lungs of the lower animals without producing a fatal result.

Dr. Holmes had been in the habit of wrapping the new born infant in flannel, and rolling.

Dr. Meacham had practised after the same method, as the infant had little power of resisting external cold.

Dr. Duncan wrapped in flannel, and practised artificial respiration in several ways.

Dr. Starkweather used cold water for the sake of the shock, and took no pains to protect the child from external cold.

Dr. Brewster, after failure with the usual methods, used cold and warm baths alternately.

Dr. Lucas took pains to keep up the heat of the body.

Dr. Bell had used alternately the warm bath, and artificial respiration.

Dr. Lawrence took the child from a warm bath to an open window—endeavored to arouse respiration by alternations of heat and cold.

Dr. Williams related having seen four sailors restored to life by artificial respiration. Hot blankets were constantly applied to the body.

Dr. Duncan reported the following case of fatal poisoning by corrosive sublimate :

Fatal Case of Poisoning from Corrosive Sublimate—Death in Twenty Hours.

A young lady, aged 23, on Saturday evening, February 16th, after a day's fasting, swallowed nearly two fluid ounces of a saturated alcoholic solution of corrosive sublimate. It was discovered almost immediately by the gentleman in whose family she was then residing, and with admirable presence of mind, he at once resorted to the antidotes recommended by Orfila and others. Not five minutes elapsed from the time of swallowing to their exhibition. White of eggs beaten up in water and milk were freely given at intervals, as long as the patient was able to swallow.

She vomited a number of times before and after taking the antidotes, the ejected matter containing a considerable quantity of mucus streaked with blood. I was sent for, and arrived at the house in almost an hour and three quarters from the time the poison was taken—the distance being considerable, and the night dark and stormy. On my arrival I found the patient lying on the bed, tossing her arms to and fro, groaning and shrieking with pain in the stomach and œsophagus, which she described as being on fire.

Articulation was so far impaired that it was with difficulty she

could be understood when she attempted to reply to my questions, and in consequence as few were asked as possible. The countenance, which was naturally florid, was now of a leaden hue, and wore an anxious and haggard expression, indicative of great physical suffering and prostration. No pulse could be found at the wrist or in the temporal artery, but the brachial gave a feeble intermittent pulsation of 110 in a minute.

The lips were swollen, and the epithelium removed, giving to the prolabium the appearance of having been seared with a hot iron, while just beneath, where the poison came in contact with the skin, it looked as though it had been brushed over with a caustic solution of nitrate of silver.

The tongue was shrunken, and tremulous, and covered with a white coat. On looking into the fauces the mucous membrane appeared paler than usual, but the examination adding to the suffering, it was not as thorough or complete as could be desired.

The eye was sunken, the lids half closed, and the ball turned so far back that the cornea could be seen with difficulty when the upper lid was raised. When she attempted to look at an object it was then seen that the pupils were contracted to mere points, and she complained of its being dark, though there was a bright light in the room; beneath each eye was a deep purple halo. The temperature of the surface was less than natural, and the extremities were cold. The respiration was laborious, the inspiration was sudden and jerking, (48 in a minute,) and accompanied with a loud rhonchus, as though the larynx and trachea were filled with a tenacious mucus, large quantities of which thoroughly colored with blood, were discharged from the mouth.

The stomach and abdomen were tender on pressure, and the weight of the bed-clothes considerably augmented the pain. I was told by the attendants that she had been unable to swallow anything for some time before I arrived, and that any attempt only aggravated the suffering. I was satisfied from the appearance of the patient, that the case must terminate fatally, yet I deemed it a duty incumbent on me to alleviate, if possible, the intense agony of the dying hour. I made several attempts to administer a teaspoonful of ice water, but without success. There were, evidently, two causes which prevented swallowing—the accumulation of mucus in the fauces, and a spasm of the muscles of deglutition. I began to despair of introducing medicine into the stomach, when, again making the attempt immediately after a copious discharge of mucus, she succeeded in swallowing a small quantity of water. Encouraged by this, I dissolved about three-quarters of a grain of sulphate of morphia in water, and watching a favorable opportunity, I poured it into the mouth, and had the satisfaction of knowing that it reached the stomach.

Not fifteen minutes elapsed after taking the morphia before its good effect became apparent—the pain in the stomach which had

heretofore been described as "like fire" considerably abated, and the epigastric tenderness materially lessened. After waiting a short time, I administered another dose of morphine of about a half grain, which so completely relieved the pain and suffering, that from that time to her death, it was hardly complained of, and this too without the slightest narcotic effect being perceptible. I left the patient on Sunday morning at half-past seven—pulse still absent at the wrist, brachial beating 130, feeble and intermittent.

Saw the patient again in about two hours. Pulse as last stated—respiration 25 in a minute—dusky hue of countenance somewhat deepened—expectoration of mucus entirely ceased—pain and tenderness wholly wanting on pressure. The bowels had moved involuntarily, the dejection dark, liquid and offensive.

As the patient was now able to swallow, gave mucilages, diluents, and brandy, but to no purpose; the vital depression increased. Dr. Lawrence, of North Adams, saw the patient with me at 6 o'clock, P. M., and while consulting in another room we were summoned to the bed-side and found her moribund; she died at a quarter to 7 P. M., in about twenty hours after taking the poison. The sensorium remained unaffected throughout.

This case offers a few points of interest: 1st, the inefficiency of albumen as an antidote when the poison is highly concentrated, large in quantity, and taken upon an empty stomach. There can be no doubt that the poison was ejected from the stomach in the form of albuminate of mercury, as the matter vomited gave no stain on the repeated application of Sylvester's test. 2d. That death may ensue from the shock consequent upon the application of such caustic solution over so large a mucous surface. 3d. The efficacy of morphia as a palliative remedy.

Discussion followed on the immediate cause of death in this case.

Dr. Alexander H. Stevens having been presented to the Society, and asked to participate in its proceedings, expressed his gratification at meeting so large an assemblage, distinguished, as he had reason to know, alike by their zeal for improvement, and their honorable deportment. The experience of a long life has with its advancing years, more and more convinced him of the eminent utility of such meetings. Although he came here to be instructed, he would feel doubly gratified if, in complying with their invitation, he could say or do anything to encourage zeal or increase knowledge.

Old men look at things from a different stand-point from that occupied by the young and the middle-aged. The same is true also of those who have labored in different regions. Moved by these considerations, he invited their attention to a subject which had long occupied his thoughts, and in which he deemed the honor and the interest of the profession deeply concerned.

How largely the interests of humanity, of science, and of the commonwealth, (he liked the word *commonwealth*,) are involved in the status of the medical profession, the conservators of public health, and of labor, the source of all wealth, it were easy to show—but let me pass this seductive subject, and proceed to that on which I design to speak.

It is well known that a change of practice, both in Europe and America, has taken place. It began within the last forty or fifty years, and has gradually become more marked and established up to the present epoch. The public in general, and some leading men, perhaps the majority of the profession, believe that the older physicians were radically wrong in their depletory treatment; that the stimulating practice of the present day is the true method, and is ever to remain so. Others contend that a change has come over the character of diseases, and that the practice of former times was right and proper, no less than the stimulating and sustaining practice of the present day.

The question, he contended, must be decided in a great measure upon facts as established by the testimony of medical men now living, who were personally conversant with the treatment of diseases in the olden time. The early recollections of such men, if he might judge from his own and those of his contemporaries, more especially Prof. Knight of New Haven, and Prof. Ives, of the same place, are clear and distinct, more vivid, indeed, than of events of a later date. He would rule out the testimony of men under fifty-five or sixty, (the very men whose opinions, generally, lead the public mind) because it does not go back to the period when medical practice began to change. Where the testimony of good observers, who are personally conversant with the facts upon which a decision must be made, can be had, with no propriety can others assume to judge the treatment of conditions of the system they did not witness. They would judge diseases by their names. Practical men do not treat their cases altogether, or chiefly, according to their place in nosology. Diseases are not mere names. They are not abstractions. Nature knows none such. The condition of the system, more than the name of the disease, guides the skilful practitioner. Disease of the same name sometimes requires a purely tonic treatment—at other times a mixed treatment, and again an antiphlogistic treatment, throughout all its stages. These variations are those not only of time, but of place.

If one of you travel to the South or to the West, he will find diseases different from those here, and medical men successfully treating them by modes of practice different from those you are accustomed to follow at home. Their theories may not differ from yours. They may have been taught even in your own school. It is a fair presumption that observation has been their guide, and not theory.

For my own part I have ever dreaded to undertake the treatment of a case of fever contracted in a distant region, of the nature of which I was practically ignorant. On the other hand, I have been impressed with the peculiar skill of medical men whose cases I have been permitted to see while journeying among them.

When a new disease comes among us, we treat it with hesitation, and often err, but the observation of a few cases opens the right path for us to pursue. Thinking men soon profit by their own errors or those of others.

Epidemic and endemic fevers assume new characters more or less at each recurring period, and physicians are not slow in adapting their practice to the requirements of the disease. It was a sagacious remark of Rush, that the first cases of epidemics were apt to prove fatal because physicians did not treat them well.

From 1808 to 1811, I was a student with Dr. Edward Miller, an accomplished scholar and elegant writer, and a practitioner of great sagacity. Soon becoming an expert bleeder, and having a taste for clinical observations, I volunteered to nurse his patients by day and by night. During the greater part of three years, and excepting the Summer months, I bled for him on an average at least twice a day, and was entrusted at times with authority to repeat a bleeding during the night, if the symptoms became urgent. Pleurisy, pneumonia, and croup were very prevalent. In adults laboring under inflammatory diseases, venesection was repeated generally once, often three or four times. I have seen more than one hundred ounces abstracted within the first week. The loss of blood was useless unless carried to the extent of inducing marked relaxation. The aim was to avoid syncope, but to induce a tendency to it, and to protract that condition as long as possible by elevating the head.

Among the croup cases there were some deaths; but in the other inflammatory diseases, treated after this manner from the beginning, not only the success was uniform, but the restoration to health was speedy and perfect. In cases whose early stages had passed without such treatment, a protracted convalescence, imperfect cure, or a fatal issue occurred.

I am, and ever have been, of spare habit of body; my weight is about 130 lbs., and was about that in the winter of 1814, when I had an attack of pneumonia. I lost about sixty ounces of blood, and felt that each of the three bleedings I underwent did me good.

In the year 1815 I had charge of a military hospital, in which were received twenty or more cases of pneumonia. In these cases the serum of the blood was tinged with bile. The disease was new, and afterwards called bilious pneumonia—was well described by Dr. Gallup. It would not bear more than one bleeding. This was the first I saw of the change which has been gradually taking place since that time from a sthenic to an asthenic disease.

I no longer or very rarely find, at the present time, the indica-

tions for bleeding as laid down by John Hunter and other observers. Formerly, almost all acute diseases (sometimes even erysipelas and scarlet fever) were attended with a strong, hard, quick, vibrating pulse, not stopped by the bandage firmly bound on the arm, or by strong pressure over the brachial artery—the blood spouting with great force from the orifice of the vein. (It was left to flow until relaxation of the system, as indicated by diminished lustre of the eyes, and softening of the skin on the forehead took place.) The coagulum was covered with buff, firm and cupped, the loss of blood well borne. This state of things is not often met with at the present time. In the city of New York, within the last fifteen years, I have not seen one such case.

At a still later period, the city of New York being the scene of my observation, some of the older physicians, not true observers, but incorrigible theorists, were tardy in modifying their treatment, and younger men seeing their error, too hastily adopted the conclusion that their predecessors, in all past time, had been doing exactly wrong. They would have thought differently, if they had been born soon enough to have witnessed the strong inflammatory character of diseases up to the year 1815.

Let it be granted that the science and art of the present day are greatly in advance of the position they had attained fifty, or even ten years ago. But science and art are accumulative and progressive. In all past ages there have been men, and at the present time even I have before me men who, according to the advice of Sir Matthew Bailey, have obtained all the learning they could, and then practised by their common sense. Such men make their theories bend to their practical observations. It is such that Hildebrand characterizes as true disciples who have existed in all ages.

If the practice of fifty years ago were now put in force, patients would be killed outright. They would die before the physician could get out of the house, and our Galens, instead of being saluted with the words which Dr. Robert Jackson has made familiar, "Oh, sir, you have cut the throat of the fever," (Ὁ ἄνθρωπος ἔσφαξας τὸν πυρετόν,) would be told, "Sir, you have butchered your patient."

Now, for any one to assert that the medical men preceding the present race were wrong in prescribing bleeding and antimony, and that they ought to have given brandy and beef tea, is to pronounce them all blockheads. Posterity may decide. I will not say whether the critic does not entitle himself to the appellation, but in all charity I ask him to reconsider his verdict, lest perchance, at some future period, the former state of things recurring, he who now condemns his predecessors, may be condemned, unjustly condemned, for his own stimulating, and as it may be hereafter called, incendiary practice.

ORIGINAL COMMUNICATIONS.

ART. X.—*Case of Labor, with very Irregular Laxity of Cervix Uteri.*
By SAMUEL WEBBER, M. D., Charlestown, N. H.

I was called at 4 A. M. to Mrs. R., about to be confined with her sixth child. I found her sitting up, restless and nervous. She said that the pains commenced on the preceding morning, and that the waters had escaped soon after. That the pains had continued, though a little irregularly both as to frequency and severity, ever since; but that she did not feel that she was making any progress, and thought there must be something wrong.

Upon examination, I found the mouth of the womb quite high up in the vagina, soft lax and pendulous to the extent, as nearly as I could judge, of an inch or more; and hanging down between the lips was a lax, somewhat pear shaped, bag, of very thin membrane, filled with fluid. While moving my finger about to ascertain the exact condition of the parts, a slight pain pressed the bag against my finger, and it broke, giving vent to a considerable discharge of water. As soon as this had passed off, I pressed my finger up through the mouth and neck of the uterus, to try and find the presentation, and could just reach with the tip of my finger a soft, irregular fleshy surface, which, while I was in the act of examining it, and before I could get any definite idea of what it was, seemed to glide obliquely upward, out of reach. I found, however, in front of the pendulous neck, and distinctly to be felt through the uterine walls, a portion of a firm, roundish tumor, apparently resting on the crest of the pubis.

From these indications, I concluded that I had a case of a transverse presentation, either of the face or genital organs, and that, by the slight evolution I had noticed, there was a disposition in the actions going on to convert it either into a somewhat regular presentation of the head, or of the breech, which I could not certainly determine—so slightly could I reach the child, though I was inclined to think that the presenting part was the face. After waiting and examining through the recurrence of several pains, I found that there seemed to be no contractile action in the womb itself, but that the pains were limited to the abdominal and lumbar muscles, and my patient said she had been much troubled for two months previously with cramps in the same region. I therefore concluded it best to give her an opiate and if possible a chance to

obtain rest, and accordingly administered a quarter of a grain of sulphate of morphia, and went home.

Visiting her again a little before noon, I found that she had enjoyed a little sleep, but that there was still some disturbance from pains of the same kind as before. I therefore gave her a powder containing about a grain and a half of opium and two grains of subcarbonate of soda. At six p. m., I was called to her again, with the information that she had had active pains for about an hour. On examination, I found the neck of the uterus fully distended and the mouth of it dilated to the size of a half dollar, though turned towards the sacrum, and I could distinctly feel that the presentation was that of the head. The pains, however, were but moderately effective, and it seemed probable that some hours would be required to finish the labor.

At the end of an hour I again made an examination, the patient having in the meantime changed her position from lying on the left to lying on the right side. Somewhat to my surprise, instead of the distinct state of the parts I had found on my former examination, I found the vagina, almost to the vulva, filled with thick fleshy folds, among the hollows on the back part of which, by pushing my finger as high as possible, I could indistinctly feel a solid mass like a head. Carefully exploring to ascertain the character and meaning of this, I found that this fleshy substance was firmly attached to the crest of the pubis, and descended thence, thick at first and firm, but gradually growing thinner and softer, passing backward as it descended till it nearly reached the floor of the vagina over the perineum, where its continuity seemed to break and to be divided into loose folds and doublings, among which my finger had passed upward towards the foetal head. After several examinations and a little time for consideration, I came to the conclusion that the proper contraction of the womb, or at least of the lower part of it, had ceased, and that the head, under what action remained, turning and passing downward and backward from the pubis on which it had rested, had carried before it the lower and lax portion of the womb and front of the vagina.

As it seemed desirable, under this state of things, to rouse the uterus into efficient action, I gave a teaspoonful of the fluid extract of ergot, which soon began to show a good effect in exciting action in these loose folds and gradually drawing them up. The dose was repeated at the expiration of an hour and a half; the state of the labor gradually became normal, and at about half-past 2 a. m., was completed by the safe delivery of a healthy boy. The placenta soon followed and the womb contracted favorably.

ART. XI.—*Case of Malformation*. By CORYDON L. FORD, M. D.

In the Fall of 1856, my attention was called to the case of an infant who was reported to have a cancerous tumor on the abdomen, which had existed from birth. On inquiry, I was led to suspect the true nature of the case, and on examination found one of those unfortunate malformations known as *Extrophy of the Bladder*.

I have seen the case once since that time. The child is now nearly four years and a half old, and although delicate, irritable, and often without appetite, enjoys a moderate degree of health. He walks without pain, but with an unusual lateral motion of the body. He is most comfortable when wearing a loose dress, so arranged that nothing shall touch the part, and although the urine irritates, and sometimes excoriates the perineum and thighs, he suffers less from this than from a pad or compress to absorb it.

An examination of the part reveals a deficiency in the pubic bones, at the symphysis, there being, as is usual in such cases, an interspace between them, which, in this case, is an inch and a half in width, occupied apparently by firm fibrous tissue. The tumor is situated a little above the line of the pubes, is nearly an inch in diameter, at times appears pushed forward, is turgescient, red, very sensitive, bleeds readily, though rarely unless touched. The orifices of the ureters are situated at the lower part of this fungous looking mass, about a half inch apart, not readily seen except when the urine is discharged, which takes place by sudden jets, or by drops slowly forming. The change from the healthy skin to the mucous surface is gradual, and presents a cicatrized appearance.

The penis is rudimentary, with no trace of urethra. The testes have not descended.

Present appearances indicate that the child will reach adult life, as he is perfectly well formed in all other respects, and possesses ordinary intelligence.

ART. XII.—*The Cytoid Corpuscle*. From a Course of Lectures on the Anatomical Elements. By R. CRESSON STILES, M. D.

[CONTINUED.]

Destination of the Cytoid Corpuscle.—A theory has lately gained ground, particularly among English physiologists, that the cytoid corpuscle is the parent of the red blood disk; another represents it as a laboratory for the production of fibrin; another as an ele-

ment for the elaboration of nutritive material. The most cautious writers content themselves with the remark that its office is a question still in dispute. I will venture, however, to give you the theory which seems to me most in accordance with the facts we possess respecting the circumstances of its production and the mode of its disappearance.

According to this theory, the cytoid corpuscle is always composed of effete organic matter, matter incapable of further organization, which is destined to be destroyed and removed from the body. It is the lowest in the scale of all the anatomical elements, and is incapable of further development. In its formation it embodies substances which, if remaining in a liquid state in the blood, would exert a deleterious influence upon the system. It exists in no particular locality, but occurs as an accessory element in all secretions and pathological effusions. Where the destruction of tissue, in the double movement of composition and decomposition which constitutes the process of nutrition, continues at a normal rate, this element is found in very small quantities in the various secretions, but when a secreting membrane is inflamed or irritated, or when the plasma is effused in the tissues, a hypergenesis takes place which finds its complete manifestation in the formation of pus. We give the name of pus to any liquid in which this element exists in sufficient quantities to cause an opaque appearance. Whenever two fluids which refract the light unequally are mingled in a state of fine division without molecular union, a white color is the result. Thus oil and albumen in the form of an emulsion; thus air and water in the form of foam. If epithelial scales exist in abundance in a liquid, the same creamy character is presented by which we are accustomed to recognize pus. Such a liquid is almost always found in the pelvis of the kidney after death, and has deceived those who were unacquainted with its real nature. Hence you will perceive that it is by the microscope alone that pus can be recognized with certainty, and the importance of a knowledge of general anatomy in forming an exact diagnosis. The lymph of a blister always contains this element, and in great abundance, in cases which have been suffering from low forms of disease and in scrofulous subjects. All gradations may be found in it between the transparent lymph and pus. Mr. Paget was enabled to recognize, exclusively by microscopic examination of the fluid of a blister, the general character of the disease under which the individual from whom it was taken was laboring.

All inflammations produce an increase of this element in the blood—the blood may be said to become in a slight degree puriform in inflammation. Fibrin is never produced in excess in the blood without a marked increase in the numbers of cytoid corpuscles.

But we have stronger grounds for considering the cytoid corpuscle an embodiment of effete organic matter. In puerperal fever, and surgical fever the system is considered to be poisoned by the

absorption of the products of decomposition. Pus ceases to be found on the suppurating surface, the flow of a sanious liquid commences, while at the same time the blood itself is loaded with this element, and abscesses form throughout the body for the elimination of the poison. So also in erysipelatous inflammations. The state of the lymphatic glands is a delicate test for the presence of organic poisons in the system, their presence being marked by their suppuration or engorgement. The presence of organic poisons produces at the same time the glandular affection and a hypergenesis of the cytoid corpuscle.

In all low forms of disease, with foul breath, sordes, decomposition of the secretions and excretions, this element is found to be greatly increased.

It is by means of this element that organic poisons are frequently eliminated from the system, as in small pox, the pustule containing the poison in a concentrated form, and readily transmitting it from one individual to another.

Pregnancy loads the blood of the mother with white corpuscles, for it is through her blood that the production of the decomposition attendant upon the nutrition of the fœtus are eliminated. So also in digestion, during which the functional activity of the principal glands of the body gives rise to increased disintegration of tissue, attended by a rise in the temperature of the body.

These facts, and many others which might be cited, all point in one direction, and lead to the belief that the cytoid corpuscle isolates the poisonous products of decomposition from the circulating liquids. The manner in which this corpuscle disappears, has been studied by Lebert, who found, on injecting pus into the veins of the lower animals, that when they resisted its poisonous action, it was gradually disintegrated. The cell-wall first disappeared, next its contents which had become granular, and lastly the nuclei, these also becoming granular before disintegration. The products of this disintegration are not known. The oxygen introduced into the lungs is an efficient agent in their destruction. Carbonic acid and cholesterine are its probable results.

SELECTIONS.

Clinical Enquiries Concerning Errors in Practical Medicine. By
PROFESSOR FORGET, of Strasbourg.

"In medicina facile est per ea ipsa interdum decipi, quæ facere videntur ad vitandas deceptiones."—MORGAGNI.

It is related of Vernage, a skillful physician of the last century, that, in the prime of life, he abandoned practice, saying, "I am tired of guessing." And it remains true, indeed, notwithstanding the constant improvements in the art of diagnosis, that a given case in medicine is almost always a more or less complicated problem, oftentimes an enigma not to be unravelled by every one, and occasionally a problem altogether insoluble. So it has been justly said that the adept in practical medicine is he who makes the fewest mistakes.

Although practitioners readily admit this melancholy truth among themselves, it would never be suspected if an opinion was formed from the numerous and invariable triumphs recorded in text-books and journals, from the wondrous revelations of official and officious professors, or from the lack of charity which practitioners generally manifest in regard to their rivals, whose blunders they pitilessly condemn, forgetting that we all have need of indulgence. The trouble is that the press, the lecture-room, and the social circle are but too often theatres for display, where each actor endeavors to raise himself at the expense of his neighbors, that is, of his brethren and the poor public, which gives its confidence to him who brags loudest.

It has occurred to me that a lesson or two on the errors committed and confessed by an old clinical professor, a complete and sincere revelation of such facts as are commonly carefully concealed, would certainly be a novelty, and perhaps an edifying one. Some may imagine that a feeling of vanity is not altogether foreign to such *confessions*, for there are many instances in which error itself implies a certain skill, and where the observer is right in making a mistake, if I may be excused the paradox. For in medicine as in literature, truth is often stranger than fiction (*le vrai est souvent ce qu'il y a de moins vraisemblable.*) Such was the thought that dictated the sentence of Morgagni I have chosen for an epigraph, and it is in this sense that critics have been able to say that the most skillful persons often commit the grossest blunders.

I feel impelled to trace this picture of the mistakes and perplex-

ities of practice and of teaching by a deep and lively conviction of my duties as a professor. I have often heard young physicians complain of the altogether too lucid and too absolute principles imparted from the official sources of instruction, while deploring the deceptions, the obscurities, the stumbling-blocks of all sorts encountered in passing from the calm and luminous atmosphere of the schools into the stormy limbo of actual practice. These murmurs were tinged with distrust, and implied a reproach towards the teachers, and my pride has been aroused by them, and to do what I could in the way of exonerating the professional order, I have devoted a portion of my clinical course to an exposition of the difficulties the professors themselves encounter and of the errors they commit, being persuaded that their shortcomings will be more instructive than the most brilliant triumphs, by inculcating on the neophytes a prudent reserve in their future judgments, and in suggesting to practitioners some indulgence towards their brethren; for in learning of the blunders of the masters, they can scarcely fail to reflect, and to say: *Quid pures faciant, domini cū talia patrant.* Yet the errors with which I propose to deal are not of the kind, so numerous indeed, that result from ignorance and carelessness. They are those sound legitimate errors inherent to the science, committed in its name and under its rules. The examples I shall give will explain whatever of paradox this proposition may present. Should some adepts, tranquilly seated in libraries, declare that I have not always adopted every precaution necessary to avoid error, I reply that it is always easy to judge after the event, and ask the one who has never been mistaken to cast the first stone at me.

Physicians do not appreciate adequately how numerous are the sources of error in practical medicine. A summary idea of them may be formed by considering the infinite variety of conditions, the complexity of elements which constitute morbid processes in general and individual cases of disease in particular. Error may arise from the patient, from the attendants, and from a multitude of exterior circumstances as well as from the physician himself. The latter deceives himself or is deceived respecting the antecedents, the moral or physical causes, the primary seat of disorder, the systems, progress, duration, complications, prognosis, etc.; and consequent on these mistaken premises is an erroneous treatment, so that, looking closely at the matter, we see that the practitioner is almost always deceived about something, even in the simplest and plainest cases, a consideration calculated to make us reflect and be humble. We shall glance briefly at the principal sources of error; I say "principal," because the number is inexhaustible, and observation daily augments it.

INTERROGATION OF PATIENTS: This is surely a most fruitful source of error. Unless the practitioner be acute, the patient will almost always deceive. He deceives him through stupidity, ignorance

or carelessness, as we often see among the people of the lower orders who are unintelligent and inattentive to matters relating to health. They always seem to strive to conceal the real trouble; they always assign senseless causes, and commit egregious errors concerning the dates of the invasion, the symptoms, etc. The patient deceives through prejudice, dissimulation, simulation, exaggeration, according to his material or moral interests. In the hospitals, especially, these causes of error abound, and they are common in society too. Every patient has a theory on the causes of his disease. Discreditable causes are always kept back. How often have you seen me establish conclusively the existence of a venereal disorder or of a pregnancy the patient has positively denied! Only the other day, a young man with a great mass of hemorrhoidal tumours, insisted that he had no trouble about the anus. When inspection had revealed the real state of things, he excused himself on the ground that he was ashamed to admit such a disease. A woman whose genitals were studded with vegetations, declared there was nothing the matter in this region. Simulation is, in all ranks of society, one of the traps against which the physician has great need to be on his guard. Exaggeration is common in others besides hypochondriacs. Patients deceive through bashfulness, through vanity, through the love of the marvellous, even through gratuitous mendacity. Rachitis and scrofulous ulcers are always the results of some accident encountered in childhood. A cicatrix, a fistulous sore has been produced by a glorious wound. Many patients task their powers in inventing extraordinary causes, symptoms, and therapeutic effects: one has an attack of pneumonia from eating a joint of mutton, another has dejections which scorch his linen, a third experiences formidable accidents from drinking flaxseed tea. Lastly, there are patients who take a malicious pleasure in deceiving their doctor; hysterical women especially manifest this aberration. In short, the patient deceives the physician in every way and on every subject. It is a Herculean labor to criticise, curtail, and rectify the interrogation, not only in cases of ignorant people, but in those of the highest social position, for the latter have oftentimes the most ridiculous notions and the most rooted prejudices on all medical subjects. Hence it is that practitioners soon throw overboard those formal protocols, those tedious formularies of interrogation laboriously drawn up by systematic writers, and trust to little beyond the simple evidence of their own senses. This is what I call *veterinary*.—*Gazette Medicale.* (From the Maryland and Virginia Medical Journal.) [G. A. O.]

Fatal Disease Produced by the Trichina Spiralis—Artificial Propagation of the Parasite.

[The following researches, aside from their great scientific value, may prove suggestive in investigating the diseases, for some years prevalent among cattle and hogs in the eastern and western parts of the country.—Editors.]

Trichina spiralis, known formerly only in a capsulated state, was considered more as a zoological curiosity than as a subject of pathological interest. No symptoms were known to betray its presence; and it was, perhaps, more frequently discovered in the dissecting-room of the students than at the *post-mortems* conducted by the pathologist. Since its discovery by Owen, numerous conjectures have been formed relative to the nature, origin, and propagation of this singular parasite. Herbst believed it to be identical with filaria; Meissner and Davaine regarded it as a larva of trichosoma, and Kuchenmeister considered it to represent an undeveloped, juvenile stage of *tricocephalus dispar*. The latter idea seemed to be confirmed by some experiments of Leuckart, who found trichinæ in the muscles of an animal fed with *tricocephali*; these experiments could, however, not be considered as conclusive, as the examination of the muscles before the experiment was commenced had been neglected. Herbst was the first to institute feeding experiments with trichinatus muscles. He found trichinæ in the muscles of the animals experimented upon; but the connective links between the parasites introduced into the stomach and those found in the muscles being deficient, no perfect light was thrown on the subject by these observations. The first experiments of Virchow, instituted last summer, tended materially to supply these deficiencies. In the intestinal canal of an animal fed with trichinatus muscle, he found the villi crowded with psorospermia; and free in the intestinal mucus numerous thread-like worms of the form of trichinæ, of both sexes, the sexual utericle of the male filled with sperm-cells, that of the female densely stocked with ovules. Trichinæ were thus proved to be bi-sexual. Their non-identity with *tricocephali* was also placed beyond doubt. The numerous points still requiring elucidation were being reserved for further inquiry, when, in January of the present year, the following case was observed by Professor Zenker, of Dresden, which, in conjunction with the experiments to which it gave the impetus, and for which it supplied the material, not only served to bring about a final settlement of the zoological part of the question, but disclosed the startling and alarming pathological fact, that trichinæ spiralis, hitherto considered to be an innocent parasite, is in reality the most terrible and dangerous of its kind—that it can actually kill a healthy adult in a few weeks, under the most distressing symptoms:

On January 12, 1860, a robust maid-servant, 24 years of age, was admitted into the Dresden Hospital. She had been indisposed since Christmas, and confined to bed since New Year's-day; complaining of depression, lassitude, sleeplessness, loss of appetite, heat and thirst. These symptoms persisted on her admission; there was considerable pyrexia; the abdomen painful and tympanitic; and although neither splenic tumour nor roseola were present, the case was put down as one of typhoid fever. A remarkable affection of the whole muscular system now rapidly supervened, consisting in extreme painfulness of the extremities, with contractions of knee and elbow-joints, and œdematous swelling, particularly of the legs. The pain was so severe that the patient was continually moaning. Pneumonic symptoms supervened, and death took place on the 27th inst., preceded for twenty-four hours by an apathetic condition. The *post-mortem* examination showed in the internal organs merely an atelectatic condition of the left lung, with numerous small lobular infiltrations, bronchitis and hyperæmia of the mucous lining of the ileum. The muscles, however, which showed a greyish-red color and a slightly freckled appearance, were found, on microscopic examination, to harbor vast numbers of non-capsulated trichinæ. The parasites were living, some coiled in spirals, others with extended bodies; and all (as Professor Virchow was the first to show, in a fragment of muscle which was forwarded to him for examination) living within the sarcolemma of the primitive fibrils. They showed various stages of development; they were diffused over all the striated muscles of the body, with exception of the heart, and in such vast numbers, that, under a small magnifying power, as many as twenty were in the field of vision simultaneously. The muscular substance was otherwise fragile, homogeneous, non-striated, and showed numerous transverse fissures. The intestinal mucus was found to be swarming with mature trichinæ of both sexes; and the remarkable fact was elicited, that female trichinæ are viviparous; the central portion of the bodies being observed to be full of well-developed embryos.

Inquiry being directed to the probable source of the trichinatus infection, it was ascertained that on December 21, four days before the patient was taken ill, two pigs and an ox had been slaughtered in the establishment of her master. Some smoked ham and sausage, prepared from the meat of one of the pigs, were fortunately obtained, and on examination proved to be full of trichinæ. The parasites had a shrunken appearance; otherwise unchanged; reassumed a normal appearance on the addition of water, but showed no signs of vitality. It is particularly worthy of remark, that to the naked eye the ham appeared perfectly healthy. It is very likely that the deceased had partaken of some of the raw meat. The butcher of the establishment (butchers notoriously indulge in raw meat) had also been taken seriously ill a short time

afterwards, and was confined to his bed for three weeks with severe muscular pains, his whole body being semi-paralytic, etc. This complaint was ascribed to rheumatism at the time, but Professor Zenker correctly surmises that an immigration of trichinæ, not sufficiently extensive to prove fatal, may have been the cause of the attack; and that capsulated trichinæ would be very likely to be discoverable in his muscle. Prof. Virchow immediately commenced a series of feeding experiments with the pieces of human muscle forwarded to him by Prof. Zenker.

The following is a brief statement of the results, as published in the last number of Virchow's Archiv. :

Rabbits fed with trichinæ die in about a month under symptoms of general muscular paralysis.

The trichinæ, which, as long as they reside in muscle, have no perfect sexual organs, become perfectly developed in the ileum. They are found free in the duodenum about six hours after a piece of trichinatus muscle has been introduced into the stomach. In about a month they attain a length of four lines, and during that period not only mature eggs and sperm-cells, but numerous embryos, resembling small filariæ, are developed, which leave the maternal body through the interior sexual orifice, are found in the mesenteric glands, and rapidly invade the whole muscular system, dwelling within the sarcolemma, and feeding upon the contractile substance of the muscular fibres. They are found in all the striated muscles of the body, with the exception of the heart, (Zenker states that he found a few in the heart of a rabbit fed with trichinæ); liver, lungs, kidneys, etc., are free. In case the immigration is not sufficiently extensive to cause a fatal result, the trichinæ become enclosed in a capsule which consists originally merely in a thickening of the sarcolemma, and this is the only condition in which they were formerly known. The trichinæ now shows the highest development it is able to attain within the muscle, into which it originally penetrated in an embryonic stage. It still retains its vitality, and quietly waits for an opportunity to find its way back into the intestinal canal, where, as Virchow's observations have shown, the two sexes attain the stage of puberty, and a wonderful productiveness, so pernicious to the individual who is unfortunate enough to harbor such terrible guests, is displayed. The same applies to the non-capsulated trichinæ. The flesh of the rabbit had, to the naked eye, a perfectly normal appearance. The trichinæ are not near as numerous in this case as they were on former occasions. The intestinal mucus contained mature trichinæ of both sexes.

Professor Zenker made a feeding experiment with a piece of the ham. No trichinæ were to be found in the rabbit a week after. These experiments will no doubt be repeated, as the time elapsed was far too short to enable a definite conclusion to be formed.—*Medical Times and Gazette, May, 1860.*

Dr. William Turner, M. D., Senior Demonstrator of Anatomy in the University of Edinburgh, in the September number of the Medical Journal of that city, relates the above case of Professor Zenker, and after adding the details of some experiments of his own upon cats, thus continues :

The conclusions which may be drawn from the experiment I have now related appear to me to be the following : The interval which had elapsed between the feeding and the death of the cat, had given time for the trichinæ which it had swallowed to propagate in its intestine. Many of the young trichinæ still remained in the gut, and constituted the thread-like worms which I have described as existing there. Others had emigrated from the gut, and, after working their way into the muscles, had become encysted. The cysts themselves exhibited all the characters of having been recently formed ; for they were almost perfectly transparent, and they exhibited no disposition of calcareous particles either in their walls or cavities ; besides, there was an absence of fatty degeneration in the muscular fibres surrounding them, and of the deposition of fat-cells in their vicinity. Lest it might be supposed that the thread-like worms found in the intestine of this cat were derived from the ascarides dwelling there, I examined the intestinal mucus of a healthy cat, to which no trichinæ flesh had been given, but in whose canal living ascarides were present, but no trace of such worms were seen. Moreover, it must be borne in mind, that whilst the ascaris mystax appears exclusively to inhabit the duodenum and jejunum, the thread-like worms were found both in the large and small intestine.

But whilst the conclusions which I have drawn tend to explain, more satisfactorily than any other, the sequence of events, yet it must be confessed that certain links are still wanting to render the chain of evidence complete. In such an extensive emigration as must here have taken place, one would have expected to have found indications of the passage of the worm through the intestinal wall ; but, although I have examined microscopically several dozens of sections made through different parts of the wall, I could see no trace of such passage, neither could I find any worms lying free in the peritoneal cavity. It should be mentioned, however, that Virchow has met with them in the mesenteric glands, and Herbst also has seen them in the mesentery of a small owl. One would also have imagined that those muscles which surround the abdominal cavity—viz : the diaphragm, transversales, and psoas—would have contained the worms in greater abundance than the muscles situated nearer the surface of the body, which was not, however, the case. It was long ago remarked by Owen, that the superficial muscles of the human body were much more abundantly affected than those more deeply situated. In special examinations which I have made of several bodies, I have invariably found this to be the case, the pectoralis major, trapezius, latissimus, and

external oblique containing more cysts in a given space than the pectoralis minor, rhomboideus, and internal oblique or transversalis. Moreover, the cysts are much more extensively distributed near the superficial than the deep surface of the same muscle,—a fact of considerable interest, for it shows the tendency which the worms possess to work their way towards the exterior.

When the worms have once reached the muscles and become encysted, they remain dormant, many of them undergoing calcareous degeneration. If it should so happen that the flesh containing them should be swallowed by another animal, then they become developed in its intestine. In Zenker's case, and in the pig fed by Leuckart, the emigration of the worms from the intestine to the muscles, and their presence in the latter, produced well-marked symptoms, which in Zenker's case led to a fatal termination. Up to the present time this is the only recorded instance of death being occasioned by the worm, or even of symptoms being produced which might lead to the supposition that it was present.

No record is given of symptoms which would be referred to the emigration of the worm from the intestine to the muscles, and, if ever these occurred, they were probably so far back in the life of the patient as to have escaped recollection. That it is quite possible for the active exercise of the muscles to be performed, and for the individual to be apparently in sound bodily health, even with the encysted worm present in the muscles, is proved by the two cases recorded by Mr. Curling.

With regard to the comparative frequency of the trichina in man, I am disposed to look upon it as much more common than is generally supposed, between one and two per cent. of the dead bodies which have come under my observation during the last five years having been so affected. (*Maryland and Virginia Medical Journal.*)

ABSTRACT OF CURRENT MEDICAL LITERATURE.

ON THE USE OF PESSARIES.—A very interesting discussion took place at the New York Academy of Medicine in December last, on the use of pessaries, sustained chiefly by Drs. Peaslee, Gardner, Sims and Thomas. Dr. Peaslee maintained that globe, stem and annular pessaries were each useful in their place—the last in a great variety of cases. He also advocated the employment of an intra-uterine pessary. "In giving my opinion," says he, "as to the necessity of this class of instruments, I would no sooner dis-

pense with the use of mechanical appliances in the treatment of all cases of displacements of the uterus, than I would dispense with the use of splints in the treatment of a majority of cases of fracture." A statement rather too broad, we think. And a comparison of circumstances so dissimilar seems hardly justifiable.

Dr. Sims coincided entirely with Dr. Peaslee. Dr. Gardner followed, with an expression of total dissent from these gentlemen. First, because pessaries attempt to cure the effect of disease and not the disease itself—the displacement being the result of debility, inflammation, or some other cause. Secondly, that they are foreign bodies and act as irritants, producing many disastrous results, leucorrhœa, abortion, hæmorrhage, and, by pressing upon the rectum, constipation, and sometimes more serious ills. He considered that the long-continued use of a pessary establishes a cavity, not before existing, (the vaginal walls being normally in close coaptation,) into which the uterus will fall when the pessary shall be discontinued.

Truth, as usual, in most controversies, lies between these gentlemen. We believe that many cases require a temporary and careful use of the pessary; and that great mischief is sometimes done by allowing it to remain in the vagina for days, weeks and months—nay, even years, sometimes—without removal; and that there are many cases of moderate displacement, which are far better treated without them. Dr. Sims thinks physicians often err in introducing too large a pessary. His own instrument, which is a ring of block tin, two and a half inches in diameter, and of course capable of being shaped to the parts, is a good instrument, and occupies little room in the vagina. We are decidedly of the opinion, however, that except in great displacement, the pessary should be seldom worn, and only as a temporary expedient, and with daily attention.

Some correspondents of the *American Medical Times* express their disapprobation of pessaries, although they at the same time recommend sponges, which may not be liable to all the objections with large metallic or other solid pessaries, but should certainly not be employed in cases of trivial displacement, or as the chief treatment. Dr. Turner, of Petersburg, Va., makes the sponge the vehicle of astringent applications to the vagina. His treatment for all malpositions of the womb is the use of tonics, rest, astringent injections, and a proper (abdominal) suspensory bandage. He always suggests, when patients are walking about, that the hoop skirt should be supported by straps over the shoulders, so that the superincumbent mass of clothing may not drag around the waist.

Dr. Stewart, of Peekskill, N. Y., has found so many inconveniences resulting from pessaries, that he has abandoned their use, and resorted to the direct application of astringents by the syringe or sponge, the horizontal position, riding in an easy carriage,

tonics, and the suspensory bandage. His success, since abandoning pessaries, has been decidedly marked.

The treatment of uterine diseases which produce displacement, requires that the integrity of all the functions should be restored, and general vigor gained—by the removal of any obstacle to healthy digestion, general tonic treatment, gentle exercise, but not sufficiently active, long or frequent, to bring on pain in the pelvic region or the loins; and it also requires the employment of powerful astringent vaginal injections, and the horizontal position daily, long enough to avoid pain and uncomfortable sensations. We believe there is no case, unless during severe inflammation, in which a long continued recumbence will not do more harm than good, by the general debility which it entails.

FATAL INVERSION OF WOMB.—A young woman was admitted to Nélaton's wards three weeks after confinement, with inversion of the womb. "A tumor was discovered within the vagina equal in volume to a large sized turkey's egg, and on examining the hypogastric region, instead of meeting the body of the uterus, the hand sunk into an infundibular cavity, which readily admitted the extremities of several fingers." Mr. Nélaton attempted reduction, with the woman under the influence of chloroform, but failed, owing, as he thought, to the dilatability of the vagina, which allowed the uterus to escape from the pressure. "Two days later, Mr. Depaul was invited to attempt the reduction, while Mr. Nélaton supported the uterus through the abdominal parietes. He at first repeated, but unavailingly, the manipulations which Mr. Nélaton had already found ineffectual. He then resorted to a round-headed rammer, and for a moment imagined that the uterus was receding through the ring; but the impression was deceitful, and was due to the uterine texture having given way; resistance was overcome, it is true, but the inversion had not yielded, and the womb was lacerated. The patient died the next morning from peritonitis."

The editor of *Championnière's Journal*, from which the above is taken, wisely says, "Reduction is the only rational treatment. It should be proceeded with at as early a period as possible, and the hand only should be used to effect it. Rammers and all other mechanical contrivances are unintelligent agents, incapable of conveying to the surgeon the sensation of the slight fraying, which precedes laceration—and it is of course preferable to fail in reducing than to cause a rupture of the womb."

UTERINE RETROVERSION DURING PREGNANCY.—A woman, forty years old, two months pregnant, while raising a heavy weight, suddenly experienced in the back a sensation of pain which gradually increased and compelled her in two days to take to her bed. She passed urine often, in small quantities; her abdomen increased more rapidly in size. In three weeks œdema of the legs made its

appearance, and four days later unavailing attempts were made to insert a catheter. A month after the accident, she was admitted into Beaujon hospital, and Mr. Gosselin ascertained the existence of pregnancy and retroversion. For forty-eight hours the catheter was introduced four times daily, and then reduction was accomplished in the following manner: Mr. G. introduced the four fingers of the right hand into the vagina and the thumb afterwards; then closing the hand and placing it in supination, the operator pressed upward and somewhat backward, as if in the direction of the promontory. The tumor was felt to recede and to rise towards its natural place. Some few signs of inflammatory action followed, but the patient left the hospital well a month later.

Mr. Elleaume, the author of a prize essay upon this subject, says that retroversion during pregnancy is not very uncommon. Mr. Martin, surgeon, of Lyons, has met with it in nine cases. Prof. Busch (Switzerland) has attended seventy-five cases, in sixty-nine of which the uterus resumed its natural position within twenty-four hours. In four cases miscarriage took place, the retroversion and retention of urine having lasted a week. In five, reduction was effected, and abortion followed.

Peculiarities of anatomical formation may operate as predisposing causes. Its accidental cause seems almost always to consist in some external injury. Tumors or the pressure of a distended bladder, may produce it, especially where there is any previous tendency to displacement.

Retention of urine of course follows the retroversion, and renders it complete as the bladder becomes distended. It being also an obstacle to reduction, Mr. Gosselin lays great stress on the necessity of the frequent introduction of the catheter. If the bladder be kept empty, spontaneous reduction may occur. Catheterism is difficult; the course is directly upward, and sometimes a male catheter may be required—to be used with the utmost patience and prudence.

After the evacuation of the bladder, the intestine requires to be emptied; and then if the uterus does not resume its normal position spontaneously, it should be replaced by the introduction of two or three fingers into the vagina, or by the hand, as in the case related. The bladder and rectum must be carefully watched, and a repetition of the accident guarded against until the fifth month of pregnancy, when the womb rises above the sacro-iliac symphysis, and retroversion is no longer to be apprehended. (*Cham-pionnière's Journal*.)

Retroversion is considered by some authorities to be a very common cause of abortion. Dr. Sims, of New York, says also, (*American Medical Times*) "I consider it almost an utter impossibility for conception to take place when the uterus is completely retroverted." He advises the use of his ring-pessary during coition, and afterwards until the uterus is above the pelvis.

Dr. W. Tyler Smith of London, on the other hand, is convinced that the most common cause of retroversion of the gravid uterus is to be found in the occurrence of impregnation in the retroverted uterus, and in the tendency of the organ thus impregnated to develop itself in this position. At length the bladder and rectum are so pressed upon as to interfere with their functions. Abortion frequently ensues from the mechanical irritation of the uterus.

The great design will be to prevent the full retroversion or strangulation of the uterus in the pelvis. As long as retroversion was supposed to occur suddenly and mysteriously, nothing could be done to avert it; but if it dates from the beginning of pregnancy, we may do much by position and attention to the bowels and bladder, and also when it becomes necessary, give prompt mechanical assistance by passing the hand into the vagina and carrying the fundus above the brim. We ought then to endeavor to prevent a return of the retroversion. The fœtus acts as an intra-uterine pessary, the organ is strengthened, and we have a better chance of curing the affection than under other circumstances. The abdominal bandage should not be too tight; the patient should lie on her side, inclining to the prone position, but avoiding recumbency. The bladder and rectum should be kept empty. She should remain in bed longer than usual, and on getting up, if any tendency to a return exists, an air pessary should be worn. (*British Medical Journal.*)

ANTIPHLOGISTIC TREATMENT OF UTERINE INFLAMMATION.—In the March number of the *London Lancet*, Dr. Edward J. Tilt has published the first of a series of papers on the "Essentials of Uterine Therapeutics." His first communication is devoted to *antiphlogistics*, after which he proposes to consider—"2d, Sedatives, by which we more particularly alleviate pain and morbid conditions of the nervous system; 3d, substitutives, such as the salts of zinc and silver, by which we modify the unhealthy action of the capillaries engaged in the process of nutrition; 4th, caustics, which remove a portion of unsound tissue, and impart greater vitality to the remainder; 5th, tonics, which support the power of life depressed by the severity of disease or its protraction; agents which so improve nutrition as to reconstitute the system; 6th, mechanical agencies, by which we remedy the displacements of an organ whose normal amount of limited mobility is liable to be disturbed in many ways."

The first paper is an argument for blood-letting by venesection and leeches in acute uterine inflammation. He says, "I find venesection just as useful now as I did twenty-five years ago, whenever acute inflammation of the womb is more or less complicated by pelvic peritonitis, and has caused fever and other symptoms in women of average strength." He thinks that venesection to the amount of eight or ten ounces favors the action of other remedies,

shortens the duration of the disease without protracting the convalescence.

In the application of leeches to the womb, we either seek—1st. To reduce inflammation. 2d. To reduce congestion, and promote absorption. 3d. To increase congestion, and determine menstruation.

These several results, Dr. Tilt judiciously observes, are brought about by the use of different numbers of leeches. He refers to Becquerel's late work, in which it is asserted that leeches applied to the inflamed womb rather increase than diminish inflammation. Becquerel prefers to apply them to the thighs. Dr. Tilt very properly says, "if we want to diminish inflammation and congestion, we must apply leeches in a sufficient number, so as to relieve, and not congest, the womb. . . . When we apply leeches as emmenagogues, so as to promote the congestion of the womb and ovaries, we only apply a small number—two or three—so as to determine the blood-current; and the plan is very successful if the leeches be applied when the menstrual flow is due, and repeated every month, so as to teach the womb to resume a forgotten habit." But while two or three leeches will create a congestion, a considerably larger number will relieve inflammation. Dr. Tilt's remarks on the range of their utility deserve to be quoted entire.

"In those inflammatory affections of the neck of the womb constituted by uterine catarrh, with or without ulceration, or a moderate ulceration, the most frequently-occurring cases, I do not apply leeches, agreeing with Dr. Bennett and deprecating Scanzoni's plan of applying five or six leeches every six or eight days in most cases of ulceration. In a deep-seated ulceration on a hard or a soft hypertrophic basis, seven or eight leeches, repeated several times before or after menstruation, as I find on trial to suit best, is the plan I adopt. In internal metritis, which I believe to be a much more frequent disease than is supposed, and to form the sole or principal pathological condition in many cases of dysmenorrhœa, in some of which, without being very painful, the menstrual flow is very scanty or very profuse, or alternately so, it is well to leech the womb just before the menstrual flow, and afterwards, supposing a menstrual flow has left the womb congested. The practitioner determines the number of leeches in each case. When it is a question of at once applying four or five leeches to the womb, one should be more guided by the inflammatory nature of the complaint than by the state of the patient's strength. I have sometimes long hesitated to deprive weak and anæmic patients of even the smallest amount of blood; but other measures failing, I have done so with the best effects. The success of a first may lead to the trial of a second application, after some interval has elapsed. In pelvic peritonitis, which follows morbid ovulation and uterine disease—in acute ovaritis, supposing the examination

be not too painful, I agree with Aran and Scanzoni, that it is better to apply leeches to the womb, or, better still, to the vaginal cul-de-sac.

I consider the application of leeches to the womb as counter-indicated by very acute inflammation, and when the vagina is inflamed. Whenever a digital examination is very painful, it is to be feared that the pain and fatigue of the operation will considerably detract from the advantages to be otherwise expected from the application of leeches. In this case they should be applied to the inner part of the thighs."

CÆSAREAN SECTION.—A woman thirty-eight years old was in labor for six days; but the os uteri remained undilated, on account of cancerous disease of the cervix—which was enlarged, hard, tuberculated, and superficially ulcerated, projecting in a considerable mass into the vagina. Two years previously she had experienced severe pain in coition, and had since been troubled with foetid, sanguinolent discharge, and aching, lancinating pains in the loins, hips and thighs, gradually increasing. The discharge had continued throughout pregnancy.

Mr. James Edmunds, surgeon, performed the Cæsarean operation, making an incision in the median line from the umbilicus to the pubis, and one in the same direction through the walls of the uterus. Found the placenta attached anteriorly, so that the incision entered it, and a gush of blood took place; but the surgeon immediately divided it with the knife, and dropping the knife went to work with both hands and extracted it carefully and as quickly as possible. The child was then extracted, the uterus contracting at once, and the incision in it was reduced to two inches in length, without any bleeding. The woman sat on the edge of the bed during the operation, under the influence of chloroform, her abdomen supported on each side by an assistant. Only about fifteen ounces of blood were lost. The external wound was brought together with stitches, and supported with plasters and compresses. Peritonitis set in on the fourth day, but subsided gradually after the sixth, and on the fourteenth day she felt as well as after an ordinary labor. She suckled her child, and a month after the operation was attending to her household duties. But about that time the child was attacked with apthæ and died. (*London Lancet for March.*)

ANÆSTHETICS IN MIDWIFERY.—The Obstetrical Society of London have lately had an interesting discussion on the use of ether and chloroform in obstetric cases. We abstract the prominent points from the report in the *London Lancet* for March. The subject was opened by Dr. Kidd, author of a work on Anæsthetics, and discussed by Drs. Tanner, Barnes, Gream, Druitt, Rogers, Hewett and Tyler Smith, and Messrs. Gervis and Browning.

The speakers were all in favor of the use of anæsthetics, and all preferred chloroform. They claimed its use in midwifery to be free from the dangers which attend its employment in surgical cases—one gentleman asserting that it had never produced death in an obstetric case—a proposition which is of very doubtful accuracy and difficult to prove, and from which Dr. Barnes dissented, considering it one of those vague statements which were entitled to little weight.

Dr. Kidd commended the use of chloroform in puerperal convulsions, especially in those which are consequent upon mental emotion or epileptic excitement. "But in the class of cases tending towards, or the result of, apoplexy, and those with albuminuria, the use of chloroform or opium must be somewhat secondary to the general treatment and general relief of the congested cerebral or spinal membranes. . . . Such diseases as chorea, whooping cough, tetanus, (not unlike puerperal convulsions,) are blotted out by chloroform, no matter how apparently weak the patient may seem; but it is different with debility from hæmorrhage or diarrhœa."

"Dr. Tyler Smith thought it might be laid down as a principle in regard to its employment, that besides its value in allaying pain, it was useful in all cases, especially in operative midwifery, where it was desirable to moderate excessive action of the uterus, and to promote dilatation and relaxation. It was contra-indicated in deficient uterine action, and in cases where hæmorrhage was expected. He had seen it stop the course of labor midway, and believed that post-partum hæmorrhage and retention of the placenta occurred more frequently after its use than without it. . . . He had no doubt of its usefulness in cases of turning. . . . He agreed with the other gentlemen as to the danger of using it in persons with fatty heart or who had been the subjects of delirium tremens, but thought there was another source of danger—idiosyncrasy."

In concluding the debate, Dr. Kidd said, "Mania from chloroform is an error; and as to heart complications, diseased valves, &c., this is also probably a mistake of one book copied into others. The respiratory system is, in reality, the point where accidents originate—but there has not been a single death from chloroform in midwifery practice."

We consider Dr. Kidd's doctrine dangerous, in that he misinterprets the fatal cases of chloroform inhalation. First, we must look upon it as mere assumption that parturient women enjoy an immunity that other persons have not. We have ourselves seen sudden and alarming depression from the inhalation of chloroform in labor, which did not pass off entirely for several hours; and Dr. Barnes refers to a similar experience. Second, death often follows immediately after two or three inspirations of chloroform freely diluted with air, with all precautions that careful men agree in considering necessary and sufficient. Third, there is every reason

to consider chloroform a cerebral sedative, producing depression from the first, and in the fatal cases causing instantaneous paralysis of the heart. In this respect it differs from ether, which is primarily a stimulant. As long as medical men remain ignorant of the physiological action of chloroform, and class it with ether in its operation, will it be difficult to convince those who employ it that no precautions can be used which will render its use absolutely safe.

PELVIC CELLULITIS.—In Prof. Simpson's lectures on the Diseases of Women, now in course of publication in the *Medical News and Library*, are some chapters on pelvic cellulitis—a disease which has not been described in modern times, until within the last twenty years. Within that period, it has been known as "intra-pelvic phlegmonous abscess," "chronic inflammation of the appendages of the uterus after parturition," "abscess of the uterine appendages," and "pelvic abscess." But Prof. Simpson shows that it is not properly described as "abscess," for it does not necessarily result in suppuration. Briefly stated, the main points of his interesting lectures on this subject are as follows:

The disease consists essentially and primarily of inflammation of the cellular tissue of the pelvis, which is a very extensive tissue, between the layers of the broad ligaments, between the vagina and the rectum, between the iliac muscle and the bone, and in short, in almost every part of the pelvis. Any portion or all parts of this areolar tissue may be the seat of inflammation.

The products and terminations of this inflammation vary according to the stage of the disease. They are, serum, pus, coagulable lymph, and sloughing of the cellular tissue. There is first an effusion of serum. If pus is formed, it is only after twelve or fourteen days.

The swelling is peculiarly hard to the touch. It is usually discoverable in the vagina or rectum, or both, sometimes through the skin above the pelvis. In the vagina it feels firm, resisting, well-defined, and might easily, as far as mere hardness is concerned, be mistaken for an exostosis of the ilium. It feels as if it were fixed to, and grew, as it were, from the side of the pelvic bones, whenever the effusion has extended to a sufficient extent laterally so as to reach the walls of the pelvis. It may be limited to a moderate extent, or it may invade all or any portion of the cellular tissue within the pelvis, even up to the neighborhood of the cœcum.

When pus forms, it is most commonly evacuated into the vagina or rectum; less frequently into the bladder or uterus; sometimes through the skin, either in the groin, or passing backward through the ischiatic notch. It is extremely rare to find it opening into the peritoneum.

When lymph is effused, the swelling is extremely dense, and if

suppuration does not follow, the effusion is very long in disappearing, in some cases several years. Extensive sloughing of the cellular tissue sometimes follows in the midst of suppuration.

The symptoms are, inflammatory fever, and severe pain in the pelvis—in the organs surrounded by the inflamed tissue. Symptoms of distress in the bladder and rectum when these organs are emptied, accompanied generally by a constant throbbing pain in the pelvis. But the certainty of the diagnosis depends upon physical examination of the vagina, the rectum, and the hypogastric region; when besides the tumor we find exquisite tenderness. When suppuration begins, pains which may have subsided, return, and we have hectic fever. If the effusion is principally or solely in the cellular tissue of one of the iliac fossæ, the lower extremity on that side occasionally becomes drawn up, and cannot, without extreme suffering, or, indeed, cannot at all, be retracted and extended.

Pelvic cellulitis is rarely fatal. Recovery may take place in any stage. And the pelvic organs may not lose their integrity; women may bear children after recovery from extensive inflammation.

It is not confined to puerperal women, though most frequent with them. It occurs in virgins, in girls who have never menstruated, and in men as well as women, though much more rarely. In the male sex, it usually follows operations upon the urethra or rectum.

Dr. Simpson finds free leeching beneficial in the acute stage. He applies leeches to the peritoneum, the groin, or to the uterus or vagina.

In former years, he would have always used mercury for its specific effect, in this as in other acute inflammations. He has come now to doubt its efficacy.

He employs anodynes freely to relieve the pain, and believes that opium, combined with ipecac or antimony, is as good an antiphlogistic as almost any.

He recommends the alkaline carbonates and hydriodates as alteratives and depurants.

He uses fomentations and poultices, and counter irritation—not with cantharides, on account of the danger of dysuria, but with tincture of iodine or solid nitrate of silver upon the abdomen. The bowels are to be gently regulated.

After suppuration has taken place, he does not wait for the abscess to break, for it may open into the peritoneum or into an unfavorable place. He delays, however, as long as he can, in order to have all the abscesses, if more than one, communicate with each other. He opens it upon the cutaneous surface in preference, but it is most likely to point internally, and the vagina is to be preferred to the rectum, for obvious reasons. He opens it in the most dependent part, with a tenotomy knife carried along the left

forefinger, and the opening enlarged with the finger. It usually needs no further local care, except to break up any adhesions in a day or two with the finger; in most cases suppuration ceases after a few weeks; in some, however, sinuses are left, and counter-openings may be required. If counter openings fail to heal the sinus, stimulating injections may be employed—as of diluted tincture of iodine. Through all the stage of suppuration, such a tonic and nutritive course is required as in all continued suppuration.

We have made a lengthy abstract of this excellent paper. It elucidates many cases which are often very indefinitely diagnosed.

A year ago, we were consulted by a physician in the case of his wife, who had been suffering for several years with some pelvic difficulty. She had never borne children. Had suffered much pain in the lower part of the pelvis, and for many months had had almost daily discharges of pus from the rectum, and was in a generally enfeebled state. The finger introduced into the rectum met a hard tumor on the anterior side, which encroached so much upon the cavity that it seemed to leave no opportunity for fecal discharges. The tumor was very tender and the whole surface smooth, with nothing that felt like a fistulous opening, which was doubtless higher up and out of reach. In the vagina the tumor extended over the whole posterior surface around the cervix uteri and up on one side to the locality of the bladder, and was everywhere hard and firm. It was evident that there was a sinus of long standing opening into the rectum, and a considerable effusion of lymph extending across the pelvis. The patient has never been seen since that time, and the result of her case is not known.

ANOTHER DEATH FROM CHLOROFORM IN FRANCE.—A vigorous man, forty years old, sustained a comminuted fracture of the leg in a fall from his horse, and fainted. Some six or eight hours after, the effects of the concussion still persisted to a certain degree; immediate amputation of the limb was, however, considered indispensable, but the patient refused to submit to the operation unless chloroform was exhibited. The reluctant surgeons held the anæsthetic at a considerable distance from his nose and mouth, but scarcely had four inspirations been made, when the patient expired, nor could life be recalled by the best directed and most persevering efforts of the witnesses of the fatal event.—(*Championnière's Journal*.)

BIBLIOGRAPHICAL NOTICES.

On Diphtheria. By EDWARD HEADLAM GREENHOW, M. D., Fellow of the Royal College of Physicians, Physician to the Western Dispensary, and Lecturer on Public Health at St. Thomas' Hospital. New York: Baillière Brothers, 440 Broadway. 1861. pp. 160.

This excellent treatise deserves more than the passing notice which its late arrival permitted us to give it in our February number. The author enjoyed unusual facilities for informing himself about the disease of which he treats, both in public and private practice; and by means of inquiries made upon the subject, for a report to the English Privy Council, of which he was medical officer. In the progress of this investigation, he visited several districts in which diphtheria then prevailed, both for the purpose of observing the disease, and also of ascertaining the result of the experience of those provincial practitioners who had been most extensively engaged in its treatment. This opportunity of seeing diphtheria in different quarters, is a great advantage to any one who undertakes to describe it; for it is remarkably characteristic of this disease that some striking features which are presented in one locality are absent in another. The differences often have an important bearing on the treatment, and seriously influence the result. The writer who collates the manifold experience of different times and places, confers a great benefit upon the profession. The numerous applications received from all quarters for the article on diphtheria contained in the January number of this JOURNAL, evinced the great need of information universally experienced in regard to a disease that was impending or actually present everywhere.

Dr. Greenhow's treatise supplies every want. It is remarkably full on all points. It begins with a general description of diphtheria, then continues with its early history, and its varieties during the present century, its diagnosis from scarlatina, its communicability, a special description of its symptoms, morbid anatomy, and sequelæ, cutaneous diphtheria and the mode of death, and closes with suggestions for treatment.

There is one interesting chapter on the subject of human and brutal diseases co-incident with diphtheria, in which the writer refers to the serious epidemics of "exudative pleuro-pneumonia," and another disease which preceded it, known as the "eruptive disease" among cattle, in England and on the continent, during

some years past. "What renders the cattle epidemics peculiarly interesting in connexion with the present subject, is the fact that, although at the time of their appearance, twenty years ago, they were quite new to the existing generation of dairymen, farmers and cow doctors—pulmonary murrain, preceded by an eruptive murrain, prevailed about the middle of the last century, just before the outbreak of diphtheria which then occurred."

We have seldom read a monograph on any subject more clear and interesting than the one before us—the interest arising partly, no doubt, from the freshness of the subject, but quite as much from the manner in which it is treated. There are few points of difference from previous treatises; some doubtful matters have received confirmation from the writer's large experience. Sloughing is occasionally found, beneath the exudation, or even more deeply. A tendency in other diseases to put on a diphtheritic character has been noticed during some epidemics of diphtheria. Diphtheria has been seen to complicate measles, scarlet fever and small pox. Although not known as an epidemic within the memory of man in England, Dr. Greenhow brings forward evidence that sporadic cases have occasionally occurred. As to liability to the disease, he finds that there is no difference in station, locality, or domestic condition, but that ill-nourished, anæmic persons are more likely to succumb to it when attacked, than others—an observation agreeing with American experience.

The most important observation in regard to its communicability is, on the authority of Dr. West, "that frequent ablution and great cleanliness appeared to insure a marked immunity from the disease; whilst diphtheria soon spread in houses where the same feeding utensils and napkins were used indiscriminately for the sick and healthy."

Several weeks ago, while we were examining the throat of a diphtheritic patient, whose right tonsil, velum, uvula, and part of the pharynx were covered with a thick exudation-membrane, a sudden cough threw a shower into our eyes, which struck unmistakably upon the conjunctiva. Mr. Herpin's severe experience came at once to mind, and we immediately washed the eyes thoroughly with water. No inflammation followed it, and we were disposed to regard our immunity as negative evidence that the contagious property belongs to the exudation itself—for as we were not disturbing the membrane, but merely looking into the throat, it was probably merely mucus and saliva that was coughed up.

We must deny ourselves the pleasure of devoting any more space to Dr. Greenhow's book. We have said enough to give our readers some idea of the work, and to satisfy them that we are ready to give it our hearty approbation.

Transactions of the American Medical Association. Vol. XIII. 1860.

This volume contains the minutes of the thirteenth annual meeting of the Association, held at New Haven, Ct., June 5, 1860, the address of the President, and thirteen reports on various subjects.

The papers are not so numerous as they have sometimes been, but they are of high character. By a vote of the Association, it was divided into four or five sections, in order that the scientific business might be expedited, and all members might have an opportunity to attend to the subjects of their especial choice. And it was also voted that every paper presented to the Association should be referred to its appropriate section, to be disposed of as each section decided. In this way, no paper was given to the committee on publication, but such as were deemed worthy by the sections.

The president's address is the intelligent and earnest appeal of a teacher of long experience in behalf of thorough education.

The first report is on the *Medical Topography and Epidemics of the State of New York*, by JOSEPH M. SMITH, M. D., accompanied with a map of the State, showing the distribution of seventy-two meteorological stations, and indicating those which are isothermal—with the mean temperature for the year.

This is a very elaborate report of 187 pages, embracing an examination of the geography and hydrography of New York, its geology, mineralogy, flora, fauna, meteorology, ethnography, and epidemics, in separate chapters. In the epidemics, much the largest space is given to periodic fevers. Erysipelas, diphtheria, pneumonia typhodes, influenza, cholera, small-pox, yellow fever, and typhoid, are also discussed. Dr. Smith quotes four cases of small-pox, which must be regarded as of spontaneous origin. He urges the importance of the custom of registering the private practice, at least to a sufficient extent to enable reports to be published as full as those of Dr. Brinsmade of Troy, which have been printed with the Transactions of the State Medical Society of New York for two years past.

In the portion of the report which is devoted to meteorology, are some valuable suggestions on the important bearing of the variations of the dew-point on disease. "It is generally known that the lower degrees of atmospheric humidity have no very marked influence on the human body. They are commonly favorable to health. But when the dew-point is high, and the temperature is high also, then it is that the atmosphere becomes a source of discomfort and a cause of disease."

A Report on the Medical Topography and Epidemics of North Carolina, by JAMES H. DICKSON, M. D., is the next paper.

This fills 78 pages, and consists chiefly of accounts of epidemics of bilious remittent and typhoid fevers and pneumonia, especially "malarial pneumonia."

The author deems it dangerous doctrine that typhoid fever is a self-limiting disease, but doubts whether it can be arrested by any treatment. He arrives at this conclusion after treating it by several different methods. We should hardly be safe in passing judgment on therapeutic means from the mere statement of the results in two sets of cases, but Dr. Dickson's cases terminated so very differently under the several plans, that we must quote them. Eight cases had in the first stage, minute doses of mercury, opium and ipecac, with salines, quinine during the remissions, and Dover's powder at night. In the second and last stages, stimulants, turpentine, blisters, dry cups, sugar of lead and opium, with suitable nourishment. Of these eight, four died.

The remaining cases were put upon chlorate of potassa, with small doses of laudanum to restrain the bowels, broth, milk toddy, and whenever hæmorrhage or any signs of purpura appeared, as much of the tincture of the muriate of iron and oil of turpentine as the stomach would tolerate. The deaths were not more than one in forty after this treatment was adopted.

The observations of several gentlemen in different parts of the State are quoted in regard to the treatment of typhoid fever, and it is gratifying to find that medical opinion in that part of the country is undergoing the change which it has already passed through at the North. We hear no more of mercurialization from any of these gentlemen; but quinine, oil of turpentine and opium are the agents upon which they rely. "All active perturbing measures are avoided, especially the administration of strong purgative medicines." "A plentiful exhibition of stimulants and nourishment, with proper attention to the usual diarrhœa, would afford more successful results than all other modes of treatment combined."

A remarkable change in the tendency to certain endemics which has been observed in the north and west of the United States, under the influence of increasing population and its consequences, is referred to by Dr. Dickson as having occurred in North Carolina. He says, "Within the last few years the character of our fevers has undergone a marked change. The periodic fevers, which once maintained such an overwhelming preponderance in our cases, and were the endemic fevers of the country, have given place, in a very great degree, to this form of continued fever (typhoid)."

Epidemics of jaundice, cerebro-spinal meningitis, etc., are also described in the report—which we have no room to refer to more at length. We cannot too much commend the industry of Dr. Dickson and Dr. Smith in the preparation of these two reports,

which are very valuable and very interesting. And knowing from personal experience the great difficulty of extracting from any considerable number of medical men the materials for forming such a report, we believe also that these two gentlemen must have a large fund of enthusiasm, without which all other qualities would have proved unavailing. We are satisfied that there is no class of papers, which are brought before the National Association, of more value than such as these.

Report on the various Surgical Operations for the Relief of Defective Vision. By MONTROSE A. PALLAN, M. D., of St. Louis, Mo.

This report, which is next in order, includes the operations for anchyloblepharon, ectropion, entropion, trichiasis, symblepharon and strabismus. Or rather it includes descriptions of the best operations in use—for Dr. Pallan says there are no less than forty operations for strabismus alone.

The author presents an interesting table of the causes of strabismus in 127 cases, collected by Dr. Radcliffe Hall. In 53 of these, the strabismus arose from habit in one trifling manner or another; in 31 from inflammation, injury, or other disease of the eye; in 29 from affections of the cerebro-spinal system. The report contains interesting physiological remarks in connection with strabismus.

Dr. Pallan appends to his report the following note:—"Want of space prevents the introduction of the second part of this report, as it would occupy too many pages, and present the formidable dimensions of a book, rather than the modest pretensions of a report; hence, I propose on some future occasion to finish the subject by offering a special paper on Glaucoma, Artificial Pupil, and Cataract."

Report on the Improvements in the Art and Science of Surgery in the last Fifty Years. By JOSEPH N. McDOWELL, M. D., of St. Louis, Mo.

The most important improvements in surgery for fifty years past can hardly be found in this paper;—which is devoted to the description of operations for the radical cure of hernia, lithotomy, extirpation of the parotid, and ovariectomy; and appears to be, to too great an extent, a personal memorial.

The next paper is Dr. Sayre's valuable report on hip-disease, of which we presented an abstract in our March number.

(TO BE CONTINUED.)

EDITORIAL.

REFORM IN MEDICAL EDUCATION.

At the present time, reports on the subject of educational reform occupy a large share in the proceedings of all our medical societies. It is to be hoped that these efforts in a good cause may not be rendered sterile by misguided philanthropy or the opposition of local and individual interests.

No project of reform is of much value that does not make provision for the advance of medical science. Without such a provision the profession might be rendered more respectable by exclusion, but the community would receive little advantage; its honors being more difficult of attainment, many would be incited to higher exertion and more thorough culture, but the "howling pack" of quacks would receive an augmentation of forces unless opposed by legislative enactment.

There can be no question that the recent advance of medicine is due to the success with which physical, chemical, and physiological methods of research have been brought to bear upon the causes of disease and the nature of morbid alterations. Symptoms are but the response of the system to material changes in the immediate principles, elements, and tissues. The same symptoms may result from a great variety of causes, just as a muscle contracts when its nerve is irritated by electricity, heat, cold, chemical action or mechanical irritation. Symptoms have been well studied since the time of Hippocrates. It is idle to combat symptoms merely. To apply material agents rationally to the cure of disease, it is necessary to recognize the material derangements of structure or chemical composition from which symptoms arise. For this purpose a practical knowledge of the instruments of physical and chemical research is indispensable.

This knowledge, which lies at the foundation of all true advance in medicine, our present system of medical education bestows in a very inefficient manner. When the student wishes to prepare himself for the profession of a practical chemist, he is not so unwise as to content himself with merely listening to lectures. He enters a laboratory, learns practically the art of chemical manipulation, practices all the tests, cultivates his senses, analyzes and combines, and not until he has given a long period of patient toil to this exercise is he considered to be fitted for his profession.

A medical student, on the contrary, enters a class of from two to four hundred, and listens, day after day, to a distant lecturer

whose *ideas* only have access to his mind. He is taught that a diseased organ is but an aggregation of diseased elements, but he receives his diploma when unable to recognize the elements, whether healthy or diseased. He is taught the reactions of certain immediate principles existing in the body in health and disease, but leaves the institution utterly unable to recognize them by his own investigations. He has heard that certain physical signs accompany certain diseases, but of the realities he has no conception. He has not at command the instruments of research, and, what is worse, the taste for accurate investigation has not been acquired. He leaves his alma mater and the centres of learning unable to recognize even the constituents of the human body, and if the acquisition is ever made, it is through toil, and error, for want of an educated and experienced guide. He is fitted to tread the beaten track prescribed by authority, but science need not look to him for appreciation or conquest.

If physiological laboratories were founded, and a course of instruction in them demanded as a condition of graduation, throngs of trained observers would leave our schools. In many schools the student is required to present a hospital ticket before he is entitled to his diploma; if it were also demanded that he should present tickets in evidence of having attended the demonstrative course of instructors in General Anatomy, Anatomical Chemistry, and Auscultation and Percussion designated by the faculty of the school, encouragement would be given to numbers of young men, thoroughly educated and zealous in the pursuit of medical science who are turned by the exigencies of life from their chosen pursuits to seek a precarious livelihood by practice, and more good would accrue to the student and to medicine, than by adding years to a course of mere verbal and dogmatic instruction. Medical teaching is becoming less metaphysical and rhetorical and more demonstrative. To encourage this movement is to further real progress.

Private preceptors can do much to correct the superficial knowledge which always attends the unwieldy classes in our large schools, and it was with surprise that we witnessed an attempt, at the last meeting of the State Medical Society of Pennsylvania to do away with the excellent requisition that the student should place himself under such tuition. In European estimates of our educational system, this is its great redeeming feature. We call upon preceptors for greater fidelity to their trust.

PROTECTION FROM SMALL-POX.

In the report on the epidemic of small-pox in Boston, in 1859 and 1860, read before the Boston Sanitary Association, by Dr. Robert Ware—to which we alluded in our last issue, we find some data which we wish to present to our readers, in support of the necessity of general vaccination laws in all the states.

The epidemic lasted from January, 1859, till October, 1860. The number of deaths reported from small-pox during that time is 303. About one-half, (142) of these deaths were of persons born in Boston, while the remainder were chiefly from Maine, Ireland, the British Provinces, Massachusetts and New Hampshire. But of the 142 who were natives of Boston, 117 were under five years of age—that is, below the age at which vaccination becomes necessary to secure an entrance to the public schools. A fact illustrating well the success of the law which regulates vaccination in Boston.

“In view of the fact shown by the preceding tables,” says Dr. Ware, “it is evident that the neglect of vaccination in some parts of New England, in Ireland, and in the British Provinces, is the cause of a considerable loss of life, and is a source of danger to any community in which natives of these places may be living.”

The author of the report also calls attention to the efficacy of vaccination in diminishing the mortality of the disease; for according to his estimates, there were at least 5589 cases of variolous disease in the city during the epidemic, but only seven deaths occurred in the native adult population, while there were 132 deaths of adults born elsewhere.

DIPHTHERIA.

We have already remarked, and must here repeat it, that this disease exhibits considerable differences in its anatomical manifestations in different places and epidemics. It is therefore incumbent on observers in different States to receive each other's experience and views of treatment with consideration, and especial reference to the particular history in each locality.

For instance, we have Dr. Bostwick's account of diphtheria in Eastern New York, as being characterised by great enlargement of the uvula, requiring amputation. In Weymouth, Dr. Fifield observes the same condition, and considers the exclusively large uvula to have been the cause of death. In Dr. Horace W. Adam's case, Dr. Minot finds the same lesion, and in apprehension of a similar danger from its size, cuts it off.

Enlargement of the uvula, however, so important a lesion in these several localities, has been noticed by few other writers. Dr. Greenhow quotes only two physicians who say anything about it, and does not describe such a condition in his own large experience; an omission which in so thorough a writer, must indicate that the lesion seldom existed in his field of investigation.

Again—in some localities death by laryngeal obstruction is the rule, so that physicians regard the local treatment as the only indispensable treatment. In other places, the opinion is all the other way.

Dr. Henry W. Davis, of Paris, Illinois, has a good article in

the *Chicago Medical Examiner* for February, in which he gives the opinion, after yearly observation and treatment of diphtheria for six years, that although tonic and stimulating measures are required, yet the danger is always from the local affection, and all general measures will be useless unless its progress is checked by topical applications. He says his patients die from croup, and the only way to save them is to step in between the inflamed fauces and the epiglottis before the latter is invaded by the exudation. His agent is the officinal tincture of iodine, applied with a probang. He says, "this is the basis of the only successful treatment of the disease, as it prevails with us. The object in view is the stimulation of the part where the membrane is not already formed, and the application of a remedy which not only removed the semi-formed membrane, if it existed, but which, being absorbed, acted upon and altered the secretion from the vessels beneath. . . . In no case that I have met, has the use of quinine, potassa, and the usual tonics and alteratives been contra-indicated; . . . but I am satisfied that in no case would recovery have followed had not prompt and effective means been directed to the throat. . . . The iodine is applied with a sponge saturated with the tincture, and to be of any benefit should be thrust firmly and far down in the posterior fauces. The limited strangulation of the patient will indicate the certainty of the remedy having reached the desired point."

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

A change has recently taken place in the editorship of the Boston Medical and Surgical Journal, brought about by the withdrawal of Dr. Calvin Ellis. Dr. Ellis' high abilities and attainments, and the uniform courtsey which has attended his relations to his professional brethren, render his retirement from that post of usefulness a matter of sincere regret.

We offer a friendly welcome to Dr. Samuel L. Abbot, who supplies the place of the retiring editor. Boston is fortunate in the possession of many gentlemen who can sustain the editorial duty of the Journal with credit to themselves and advantage to the medical profession; so that, however high our estimate of the character of one whose services we are to enjoy no longer, we need never feel that such an enterprise will languish from a change. We will only express the hope that the Journal may always be as fearless and independent in its censorship as it is sound in medical science.

We would not have our cotemporary estimate our interest in its movements by this tardy salutation; it was prepared for our March number.

MEDICAL NEWS AND MISCELLANY.

MASSACHUSETTS GENERAL HOSPITAL.—The Resident Physician, Benjamin S. Shaw, M. D., has sent us the Annual Report of this institution for 1860. The pamphlet includes, as usual, the Report of the Superintendent of the Insane Asylum at Somerville, which is an institution upon the same foundation and under the supervision of the same board of trustees with the General Hospital.

The number of patients treated in the Hospital during the year, was 1394, of whom 555 were natives of Ireland. The number of out-patients treated by Dr. S. L. Abbot, was 4271. The *Boston Medical and Surgical Journal* in a late number, has some very suitable remarks in relation to the Hospital, which we second heartily, and copy for the benefit of our readers:

"The number of admissions, it seems, would have been considerably larger during the past year, had it not been for the offensive and unwholesome effluvia arising from the flats and newly-made land—if land it may be called, composed as it is of all the offal of the city, phosphorescent with animal remains, and liberally interspersed with coffee-pots, stove-pipes, cows' horns, and old boots. It has often seemed not a little strange to us, in these days of boasted enlightenment, sanitary associations, etc., that our city should select the immediate neighborhood of the sick, those who of all others are peculiarly dependent upon wholesome air, where to deposit the filth of the city, while the blue blood of the Back Bay is refreshed with breezes wafted over the fragrant debris of a rural hill in Newton."

In memory of very agreeable relations with the Hospital for four years, and with members of the medical and surgical staff, and the Board of Government,—of whom a few only still remain in office—we are happy to perceive the evidences of its continued prosperity. Indeed, we believe that the present internal economy of the institution is far superior to what it was in former years—thanks to the wise decision of the Trustees in placing the entire management in the hands of a resident medical gentleman, and to their good fortune in finding one so well qualified for the responsibilities of the post as the present incumbent.

BOSTON SANITARY ASSOCIATION.—This Association has continued to hold bi-weekly meetings, with stated subjects for discussion. We had expected to present our readers with an abstract of the proceedings thus far, which the Secretary, Josiah Curtis, M. D., had the kindness to offer us when they should be printed; but they have not yet arrived.

THURBER MEDICAL ASSOCIATION.—This is the title of a medical society, composed of medical gentlemen living in and around Milford, in a small portion of Worcester, Middlesex and Norfolk counties, in this State, at so great a

distance from the centres of those counties, as to make it inconvenient for them to attend the meetings of the several District Societies to which they belong. Being aware of the benefits to be derived from association and frequent meetings for conference on professional matters, some enterprising gentlemen issued a call to the physicians of that neighborhood in 1853, to meet and organize a society. The organization was made, and has resulted in a flourishing Association.

It consists at present of twenty-two physicians, from twelve towns. They hold monthly meetings, at which there is a regular order of business—it being the duty of all the members in turn to read original papers. At the annual meeting, an address is delivered, and a dinner is eaten which is graced by the attendance of the wives of the members.

The association is named in memory of the late Daniel Thurber, M. D., of Milford, a gentleman much respected as a physician and a citizen. The conditions of membership are the same as those required by the Mass. Med. Society, with an annual assessment of one dollar. J. G. Metcalf, M. D., of Mendon, Vice-President of the State Medical Society, has been the efficient Secretary of the Society from the being.

An endowment which enabled the Association to begin a choice library, has enhanced the value of their organization. In 1859, Horace B. Claffin, Esq., of New York, a native of Milford, presented the Society with five hundred dollars, and liberal-minded citizens of Milford gave four hundred more. The latter sum was expended in the purchase of books, and the interest of the "Claffin Fund" is devoted to their yearly increase. The Association has also undertaken to collect an anatomical cabinet.

With these valuable attractions to enhance the interest of their periodical meetings, with the enterprising spirit shown by the members, and the well-known high character of their Secretary, there can be no doubt that a good influence is spreading over their neighborhood, which will be an essential benefit to the community.

We have been enabled to furnish this brief sketch of the Thurber Medical Association, by the kindness of our old fellow-student, Francis Leland, M. D., of Milford; and we rejoice to know of other places, besides Pittsfield, where the relation between the medical profession and the community is what it should be.

JEFFERSON MEDICAL COLLEGE.—The most interesting topic at present under discussion in the medical ranks at Philadelphia, and, indeed, in many other places, is the appointment of a successor to Dr. Meigs, who has so long and so ably filled the chair of Obstetrics in the Jefferson Medical College.

It is, of course, a post of high honor—none more so in the United States; and also of great emolument. So that the candidates for the succession are not a few, and include many gentlemen of eminence in this department. Among those named, are Dr. Coventry, of Utica, N. Y.; Dr. Miller, of Louisville, Ky.; Dr. Byford, of Chicago, Ill.; while of a number of Philadelphians who are said to be seeking the professorship, we hear of Drs. E. Wilson, W. V. Keating, D. Gilbert, J. L. Ludlow, E. Wallace, and L. D. Harlow. The election is to be made on the 8th of April.

CARE OF PUBLIC HEALTH IN PROVIDENCE.—Since the establishment of the office of Superintendent of Health, the means employed in this city, to prevent small-pox, have been as follows:

1. Free vaccination of all who desire it, at stated hours every week, throughout the year,
2. The requirements of a certificate of successful vaccination before any child can enter the public schools.
3. The immediate visitation, by the Superintendent of Health, of every case of small-pox or varioloid, that appears in the city. At this visit, printed and verbal directions are given in relation to measures to prevent contagion; provision is made for the vaccination or re-vaccination of all who have been exposed; and when it seems necessary, the sick persons removed to the hospital. In most cases, however, they are allowed to remain at their homes.
4. Frequent appeals to the people, by handbills, advertisements, and other means, to attend to the vaccination of themselves and their children.

Such are the means that have been used to prevent small-pox in this city; and their success is seen in the fact that, during nearly three years previous to January last, (1859,) there was not a single death from that disease in the city.

During that period, however, there were, at least, seven cases of small-pox or varioloid, in the city, which came from other places. Had no measures been taken to prevent contagion, each of these cases might have been, and probably would have been, the origin of many other cases of the disease. They were, however, promptly reported, and immediately visited; and the measures taken were so successful, that not in a single instance was the disease communicated to other persons. (*Report on the Small-Pox in the City of Providence.* By Edwin M. Snow, M. D., Superintendent of Health.)

CHLORINED WATER IN DISSECTION WOUNDS.—We find the following from the *Gazette des Hopitaux*, in confirmation of our advice to those who have any contact with diphtheritic exudations. "Mr. Garrigon states that repeated experience has convinced him of the efficacy of the treatment long since recommended by Mr. Nonant, of placing the hand suffering from dissection-wounds in chlorinated water. The application will always be found efficacious, providing purulent infection have not already set in, when it will be useless."

QUINIC ACID IN THE HERB OF THE WHORTLEBERRY.—Messrs. Zwenger and Siebert have found that several plants belonging to the family of Ericinæ, among them the *Vaccinium Myrtellus*, whortleberry, contain a considerable proportion of quinic acid, identical with that obtained from Peruvian bark.—(*Annual of Scientific Discovery*, 1861.)

ANÆSTHETIC ACTION OF CHLOROFORM.—Dr. Piossek has presented to the Physiological Society, of Greisswald, an account of experiments with chloroform, made under the direction of Professor Hunefeld, which seem to establish the following conclusions as to the *modus operandi* of chloroform beyond a doubt:

Chloroform produces anæsthesia by abstracting from the blood some of the oxygen necessary to the continuance of the organic processes, thus causing impaired nutrition of the central organs and nerves; hence the insensibility of the

sensatory, and the relaxation of the motory, nerves. The oxygen of the blood, probably, combines with the carbon (liberated by the decomposition of the chloroform) to form carbonic acid; while the chlorine and water of the chloroform probably form hydrochloric acid, etc. Into what combination this hydrochloric acid may then enter with the ingredients of the blood is as yet unknown. The other anæsthetics, ether, amylene, etc., act similarly, and their *modus operandi* may be compared to the narcotizing or asphyxiating action of carbonic acid or nitrous oxide. (*Ibid.*)

SUGAR A REMEDY FOR DRUNKENNESS.—Dr. Lecœur, of Caen, says that he has found in white sugar as efficacious a remedy for drunkenness as ammonia. No rationale has as yet been adduced for the action of so simple a substance as sugar, except that it serves to bring on a different fermentation than the existing one in the stomach, and to neutralize, by the formation of new compounds, the action of the liquors. (*Ibid.*)

The Homœopathic College of New York, says the *Medical Times*, recently held its commencement, on which occasion the President gave the following significant charge to the graduates. We need no other proof of the utter worthlessness of the system which these young men are now deemed qualified to practice:

"You need not stick alone to Homœopathy; if that will not cure, try Allopathy. If Allopathy fails, try Hydropathy; and if you are not then successful, adopt Spiritualism, or any other curative means that may be at hand."

It is deeply humiliating to add that this Institution has a charter from the State, and by its diploma, places its graduates upon the same legal footing as those of our best medical schools.

BOOKS AND PAMPHLETS RECEIVED.—Paine's Institutes of Medicine. New York, Harper & Bros., 1860. (From the author.)—Report of the Board of Trustees of the Massachusetts General Hospital, for the year 1860; Boston, 1861. (From the Resident Physician.)—Report on the Small Pox in the City of Providence from January to June, 1859. By Edwin M. Snow, M. D., Superintendent of Health; Providence, 1859. (From the Author.)—The Value and the Fallacy of Statistics in the Observations of Disease; Boylston Prize Essay for 1860, by David W. Cheever, M. D.; Boston, 1861. (From the Author.)—Report of the Pennsylvania Hospital for the Insane; by Thomas S. Kirkbride, M. D. Report of Illinois State Hospital for the Insane.

EXCHANGES RECEIVED.—American Journal of the Medical Sciences—North American Medico-Chirurgical Review—Medical and Surgical Reporter—American Medical Times—American Medical Monthly—Boston Medical and Surgical Journal—Cincinnati Lancet and Observer—Cincinnati Medical and Surgical News—Journal of Practical Medicine—Dental Register of the West—St. Louis Medical and Surgical Journal—Chicago Medical Examiner—Nashville Journal of Medicine and Surgery—Columbus Review of Medicine and Surgery—Maryland and Virginia Medical Journal—Georgia Medical and Surgical Encyclopædia—New Orleans Medical Times—Journal of Materia Medica—Chicago Medical Journal.

THE
BERKSHIRE MEDICAL JOURNAL,

EDITED BY

WM. HENRY THAYER, M. D., AND R. CRESSON STILES, M. D.

"Ore trahit quodcumque potest atque addit acervo."

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No. 5.

PROCEEDINGS OF SOCIETIES.

MASSACHUSETTS.

BERKSHIRE DISTRICT MEDICAL SOCIETY.

The Society met at Pittsfield, on Wednesday, March 27th, Dr. C. T. Collins, President, in the Chair. After the approval of the minutes of the last meeting, the following communication was presented from Dr. W. H. Thayer :

GENTLEMEN : To some of the objections advanced by Professor Stiles to the ground taken in the communication on the treatment of asphyxia, which I transmitted to the Society at its March meeting, I wish to reply :

1. To ask for evidence that immersion in warm water does not have the same effect upon the glottis which the experiments of Beau show after immersion in cold water. I infer that his experiments were all made with cold water, or at the ordinary temperature, as there is no statement to the contrary in his report in the *Archives Générales des Médecine*.

2. To say that the chief point in the ground taken by the advocates of a temperature below blood heat for an asphyxiated person, is not answered by Professor Stiles. It is this :

A high temperature accelerates the circulation ; the more rapid the circulation, the more readily is arterial blood made venous ;

venous blood circulating through the brain and other vital organs arrests their functions ;—absolute death will immediately follow.

It is immaterial in this case whether the toxic influence of venous blood depends on the presence of carbonic acid, or on the absence of oxygen : an active circulation exhausts the oxygen *pari passu*, with its evolution of carbonic acid in the capillaries—the blood is deoxygenated as rapidly as it is carbonized ; and when the oxygen is exhausted the circulation must cease.

The indication, therefore, seems clear, to husband the oxygen already in the blood until a new supply can be provided ; and this is done by making the circulation as moderate as possible, until respiration is established.

I must take the liberty to refer again to the instance cited in my previous paper. If a person fall into the water in a state of syncope, he may be immersed for a much longer period without being beyond resuscitation, than if he had fallen in while in full possession of his senses ; which has been very plausibly accounted for by the explanation that his circulation was not accelerated by the struggles which are made by one immersed when in complete possession of his powers, and hence his blood is much longer in becoming thoroughly venous.

Bernard's statement, " that the capacity of the blood for gases diminishes as the temperature falls below 100°," is the same thing as saying that the circulation would be less active as the temperature falls. If its capacity be less, it will be slower in undergoing any changes—slower in deoxygenation.

I may be permitted to recall attention to the fact that the temperature recommended for asphyxia is not a low one—it is only exposing the patient without clothing to an atmosphere which is most comfortable for a sitting room in winter. The term " cold air " might mislead.

These views are submitted to the Society, with the hope that they will be freely discussed, and that any experiments or experience having any bearing upon a subject of so great practical importance will be produced, whether they may serve to sustain or to overturn the arguments which I have employed.

Dr. Stiles replied that since the last meeting he had made several experiments on the immersion of warm-blooded animals in water at a temperature of 100° Fahrenheit, and found that the respiratory movements continued for some time after immersion, that the lungs filled with water, so that it ran from them on section, after death ; that the air they contained was discharged in the movements of expiration.

That in asphyxia the pressure was increased in the pulmonary artery and the aorta—that unless the capillary circulation were sufficiently active, both in the lungs and the general system, me-

chanical distension would be sufficient to paralyze the heart's movements.

That in syncope, trance, catalepsy, and apparent death, the nervous system harmonized the activity of the heart to the demands of the system. But in the newly born, unfortunately, the nervous system exercised no such harmonizing influence. The heart beat, for a warm blooded animal, in full vigor, and to expose the infant to a fall of temperature from 100° to 60° or 70° with the additional cold produced by evaporation, and its incapacity of generating heat, was to disturb the harmony of the system suddenly and seriously.

That the prolonged cold to the surface would by proving a prolonged irritant to the nervous system, and exhausting its irritability, weaken the force of the irritations usually employed to arouse the respiratory movements.

Dr. H. H. Childs called attention to the fact that the temperature of the foetus was always lower than that of the mother.

Dr. Brewster could always distinguish a flow of liquor amnii from one of blood, by the different sensation imparted to the hand—the temperature of the liquor amnii being colder.

On motion of *Dr. A. M. Smith*, the question was made a special subject of discussion for the next meeting.

Dr. Miller stated that the question of the use of heat in asphyxia had arisen from a discussion on breech presentations and wished now to recall the latter subject, and inquire whether, when the head was retained at the outlet of the pelvis, traction should be immediately resorted to, or time given for its natural expulsion.

Dr. H. H. Childs did not resort to traction immediately, placed the body of the child in the proper position, and awaited the contraction of the uterus, and the voluntary efforts of the mother; had lost a child from the use of anæsthetics, the mother being unable to aid in the expulsion of the head; had seen the head expelled very often without the slightest traction.

Dr. Brewster thought the uterus had no influence in expelling the head; that it was rarely delivered without traction—used traction immediately, thinking every moment's delay an unnecessary source of danger to the child.

Dr. Cady resorted to traction immediately; had lost no cases of original breech presentation, but had lost after turning.

Dr. Miller stated that in one of his cases, the child had lived after the head had been retained for a half-hour.

Dr. Smith resorted immediately to traction.

Dr. Manning had known the head expelled without traction before the arrival of the physician.

Dr. Holmes has lost one out of six cases of breech presentation—always uses traction immediately.

Dr. Lucas delivers at once.

Dr. Collins distributed a quantity of vaccine virus, and proposed

that the members should supply each other with fresh virus at each monthly meeting.

Dr. Collins had treated two cases of fracture of the thigh with simple extension by means of cord and pulley, and counter-extension by elevating the foot of the bed. No shortening of the limb had taken place.

Dr. Cady said that treatment had been fairly tried long ago in this country and in Europe—that Dr. Twitchell, of Keene, had tried, and renounced it—that to attempt to cure an oblique fracture without splints was to run the risk of non-union and deformity.

Dr. T. Childs presented a stomach the greater extremity of which had been destroyed apparently by post mortem digestion. It was taken from a child who had died by slow disease. John Hunter had seen the stomach destroyed in cases of sudden death, and was the first to discover the cause of the lesion; in this case the death had not been sudden.

Dr. Smith had witnessed a similar appearance in the stomach of a child who had died suddenly in convulsions.

Dr. Lucas presented a specimen of a cyst in the left lung, adherent to the ribs and pericardium, and filled with gelatinous matter.

Dr. Stiles presented a specimen, sent by Dr. Turner, of the Kings County (N. Y.) Hospital, of enormous growth of the Achorion Schœnleini, on the head of a mouse. The tumor formed by the parasite was cylindrical, an inch in height, and a half inch in diameter, implanted on the scalp, and closing both eyes. Isolated patches of favus surrounded the principal mass. Under the microscope the plant was not to be confounded with any other parasite, the mycelium, filaments, and spores were all characteristic.

Dr. T. Childs spoke of the necessity of recognizing the parasitic origin of many diseases in order to treat them rationally and effectually.

Dr. Smith reported a case of placenta previa. Inserted the tampon by means of a speculum—had called attention to this mode of inserting the tampon because, simple as it is, it is not generally known.

ORIGINAL COMMUNICATIONS.

ART. XII.—*Fracture, with Displacement of Spine—Patient Surviving Fifty-two Years—Interesting Physiological Phenomena.* By TIMOTHY CHILDS, M. D.

In August, 1857, I made, with Drs. Ainsworth, of Boston, Jennings, of Richmond, and H. H. Childs, of Pittsfield, the autopsy of a patient who had been a living physiological curiosity in this vicinity for more than half a century. I made notes of the case, and was kindly furnished by Dr. Jennings, his medical attendant, with a full narrative of his medical history subsequent to the accident, written out by the patient himself, at the Doctor's request.

As the case is, so far as I know, unique, and of great physiological interest, I send you a brief report of it for the JOURNAL.

M***** G***** of Richmond, Mass., on the 6th of November, 1804, being then a stout and healthy young man of twenty-two years of age, while painting the tower of a church in that place, was precipitated by the fall of a scaffolding, on which he was standing, a distance of *forty feet*, striking the frozen ground upon his back and hips. The concussion, though severe, was succeeded by a prompt reaction—as the patient remembered that he recovered his consciousness as the doctor, who was promptly called, was making preparations to bleed him. Paralysis of the lower part of the body was found to be complete, and loss of sensation entire—complete inability to evacuate the bladder and bowels. A careful examination showed *depression* corresponding to the twelfth dorsal vertebra. In short, the patient exhibited the usual symptoms of fracture and dislocation of the spine, with compression of the medulla. The next morning the patient was “carried upon a litter upwards of a mile, to his father's house,” and a consultation held, in which Drs. Burghart, Kittredge, and Collins—names well known to the profession in Berkshire—participated. The diagnosis was confirmed, and vigorous but unsuccessful attempts at reduction were made. The treatment seems to have been most judicious. Local depletion, careful attention to the bladder and bowels, afterwards baths, liniments, friction, electricity, galvanism, etc., etc. The patient soon became comfortable, and lived from November, 1804, to August, 1857, when he died, of double pneumonia. During this period, though perfectly paraplegic, he married, had six children, and by his energy and industry amassed a little fortune for his family. At the post mortem examination

the entire spine was removed and carefully examined. The specimen is preserved in the museum of the Berkshire Medical College.

The injury was found to consist of fracture, with displacement of the twelfth dorsal vertebra, and *below this point the cord was completely atrophied.*

I have now to describe the physiological phenomena exhibited by the patient during the long period extending from the receipt of the injury in 1804 to his death in 1857, (fifty-three years.)

These may be conveniently grouped under four heads: 1st. The effect of the injury upon sensation and voluntary motion. 2d. Upon nutrition and secretion. 3d. Upon the evacuations. 4th. Upon the generative function.

1st. I have said that the loss of both sensation and motion was at first complete below the site of the injury, and the *line of demarcation* was well defined. Within a year, however, *sensation* gradually returned to the front of the abdomen, the front of the scrotum, and the front of the thighs, down to within two and one-half inches of the knee joint, and extending about half way round the thighs. At the same time the power of the extensor muscles of the leg, ("quadriceps extensor cruræ") was recovered. This corresponds exactly to the distribution of the anterior crural nerve, its cutaneous branches bestowing sensation upon the integuments on the front and sides of the thigh, and its muscular branches supplying the "quadriceps." Says the patient, "At the time of the injury, this insensibility passed nearly straight around me, but I soon perceived that sensation was gradually passing down in front. This at first was quite inconsiderable, and continued, though with less and less progress, for nearly a year, when it had reached to within two or three inches of the knee, upon the top of the thigh, and the sensation was nearly complete upon the abdomen, and half-way down the thigh, as well as more than half way around it, and I had acquired so much power in the muscles, upon the top, that I could move and raise, and draw up my legs upon the bed; whereas at first I could not even move them as I lay, but they appeared perfectly paralyzed and inactive—as much so as those upon the under side, which were then and still remain perfectly senseless, inactive, and useless. The sensation upon the abdomen is, I think, quite restored to its former state, even to the groin, as well as to the root of the penis and scrotum, from which it extends outward a little. I have been tapped three times for *hydrocele* on the left side—the first time by yourself, (Dr. Jennings.) At this time the trochar was inserted about half way from the groin to the seam, and although a good deal benumbed at the place, yet it caused a sharp, stinging sensation, which I can hardly describe. The last two operations I performed myself with a sharp-pointed knife, and was careful to get *entirely* beyond all sensation, and did the work well, without producing the least

particle of pain whatever." This restoration of sensation and motion must have been due to a relief of the pressure upon the cord by absorption or other change at or above the origin of the anterior crural and inguino-cutaneous nerves. (These nerves it will be remembered arise from the four superior nerves of the lumbar plexus.) This plexus, however, is not formed wholly by the anterior branches of the lumbar nerves, but is contributed to by the last dorsal nerve—the point of pressure was by the autopsy proved to be at the *last dorsal vertebra*. No farther restoration of sensation or voluntary reaction than this ever took place. Says the narrative of the patient: "I have frequently cut, burned, bruised and injured them (my legs) in various ways without knowing it till I discovered the wound by sight; and some ten or fifteen years ago I fell and broke both bones of the right leg entirely off, about four or five inches below the knee, and knew nothing of it till I attempted to get up, and I found it to swing about like a leather strap instead of keeping its place. I immediately took my bed, sent for a surgeon, had it bandaged, splintered and dressed in the usual manner, and after lying on the bed with it the usual time, I again got upon my crutches, and walked about with it as usual, without having experienced, during the whole time, the least sensation in it any more than in the crutch that I walked upon."

2d. The effect of the injury upon nutrition. Of this I can only say that the lower extremities showed only a very moderate atrophy, from cutting off the cerebro-spinal supply of their innervation, and their comparative disuse, (perhaps solely from the latter cause) while the head, trunk, and upper extremities, were all *largely* developed. In regard to the secretions and the excretions, the only peculiarity observed in the former, was, that the alvine evacuations were uniformly in the form of very dry and very small scybilæ. These he dislodged and removed twice daily by the aid of an ingeniously contrived instrument, and the index finger, "never soiling them," so dry were the minute scybilæ.

After the use of the catheter, for four weeks after the accident, he was able, by powerful voluntary contraction of the abdominal muscles, aided by a loop of rope tightly twisted with a stick over the hypogastric region to *nearly* empty the bladder. As to the phenomena exhibited in the *reproductive functions*, the patient shall speak for himself. "At the age of thirty-six I married, soon after which my wife presented me with a son, and in 1823 a daughter; in 1826, another son; in 1828, a *pair of twins*, (a son and a daughter) and in 1831 (my age being forty-nine and my wife's forty-three) she presented me another daughter, which was the last. You will probably ask from whence came all these children. I reply that from many reasons, perfectly satisfactory to myself, I have not the least doubt of their legitimacy." * * * * *

The patient goes on to detail irrefragible proofs of his virility. I have no doubt of the correctness of his conviction of the legiti-

macy of his children. They all resemble him very closely. The mother, throughout her married life, sustained an excellent character; besides, there is no physiological reason why a paralytic should not procreate, the reproductive, like the other organic functions, being independent of, though greatly influenced by, the cerebro-spinal system. This principle was well illustrated in this patient. Though capable of coition and fruitful connection, he never experienced, much to his annoyance, the venereal orgasm.

He frequently experienced vague distress in his lower extremities, and it was only by experience he came to connect these with effects of cold.

So when the rectum or bladder required evacuation, he did not experience the usual sensation pointing to these needs, and by accident only came to associate these vague feelings of discomfort with the condition they represented.

ART. XIV.—*Arsenic in Common Life.* By CHARLES H. PORTER, M. D., Professor of Chemistry and Medical Jurisprudence, Albany Medical College.

Of late years, attention has been called to the extensive use of arsenical pigments, in the coloring of wall paper, textile fabrics, &c., and to the numerous cases of indisposition arising therefrom. In many of the cases alluded to, the illness was but slight; in others it was more aggravated, the ordinary symptoms of arsenical poisoning being present; and in a few cases it has been stated, death has resulted.

To many it may seem, upon casually glancing at the heading of this article, that the subject is of but little importance, and hardly deserves more than a passing notice. But a careful review of the actual state of the case will convince even the most sceptical, that there is danger arising from many articles colored with the pigments alluded to, and which are in constant use by the public.

A careful consideration of this subject is especially worthy the attention of medical men, who are justly regarded as the guardians of the public health, and whose aim is as well to prevent disease as to cure it.

In the absence in this country of stringent laws, found in Prussia and in other European states, forbidding the use of the poison-

ous materials we allude to by manufacturers in the preparation of articles in common use, the public can only be guarded by being made acquainted with the forms in which the danger may appear, and with the ill effects that may follow from their use.

There are two varieties of arsenical pigments in extensive use ; these are *Scheele's green* (arsenite of copper), called also *Swedish green*, of an apple green color ; and *Schweinfurth green*, (aceto-arsenite of copper) called also imperial green and Vienna green, of an emerald green color. Scheele's green, when mixed with gelatinized starch, or when containing sulphate of lime or carbonate of copper, is of a different tint and bears other names, as parrot green, Brunswick green, mountain green, mineral green, &c. These pigments are essentially the same thing, consisting principally of arsenious acid (*white arsenic*) and oxyd of copper. These greens, either alone or mixed with other greens to procure various tints, are extensively used in painting, decorating and ornamenting. They are highly poisonous. A very few grains would prove fatal to an adult, and a small part of a grain would produce serious indisposition.*

It is intended in this article to notice the more common applications of these greens and to give an account of the ill effects that have followed from their use.

Wall papers. It is only within a comparatively few years that Scheele's green and Schweinfurth green have been extensively used for wall papers, replacing a less noxious but probably more expensive compound.

During the last two months a large number of examinations have been made in my laboratory of green wall papers obtained from various dealers in this city. Five-sixths of those examined were colored with the dangerous compounds spoken of. The quantity present varied greatly in the different specimens examined. In the cheaper, coarser papers, it was generally present in larger quantities than in others.

I am indebted to my friend and assistant, Dr. Oscar H. Young, for a large number of the determinations made. But a few of the results obtained are given. The others were so similar that it would be merely repetition to note them. One paper was found to contain 8 grains ; others respectively 24.5 ; 25.8 ; 27.2 ; 27.4 ; 30.6 ; 32.7 ; 34.1 ; 40, and 62 grains of arsenious acid (*white arsenic*) to the square foot. The average of all the papers examined gave thirty grains of arsenious acid to the square foot.

Therefore, in a room ten feet by fifteen feet, and eight and a half feet high, covered with an average specimen of the arsenical pa-

* M. Erdmann speaks of a coloring matter known under the name of cochineal red (*rouge cochenille*) which contains much arsenic in the state of arseniate of alumina. [Journal für prakt. chem. t. LXXIX, p. 121.]

per, making a fair deduction for doors and windows, there would be employed three hundred square feet of wall paper, containing *nine thousand grains of arsenious acid*; with other specimens, it might be no more than *twenty-four hundred grains*, and it is not unlikely that it might be *eighteen thousand grains*.

Admitting the existence of this poison on our walls, there arises the question—is it in a condition likely to do harm? In some of the specimens examined, the pigment was firmly attached to the paper, its surface presented a smooth, somewhat glistening appearance. This was more particularly so with those that were plain. Others, on the contrary, contained the pigment loosely adherent to the surface, so that slight friction, as by rubbing the fingers over the surface, detached small particles. This was the case more particularly with the “flock” papers. In that paper containing sixty-two grains of arsenious acid to the square foot, the design was green foliage on a lighter green ground; upon bending the paper, or upon cutting it, particles of the pigment dropped off in very considerable quantities.

In dusting apartments whose walls are covered with these papers, and in other ways when the walls are touched, as by the contact of furniture or of other objects, minute particles of these poisonous compounds are detached, which, floating in the atmosphere, are thus continually inhaled, and illness arises. Especially are ill effects likely to be experienced where the pigment is but loosely attached to the paper.

What are the ill effects produced by arsenical paper hangings? I may be said briefly that the symptoms observed are generally those common to chronic poisoning by arsenic. In some cases, the similarity or rather identity is evident. In other cases it is less distinct, while in others again, the symptoms are those of acute poisoning by arsenic.

Within the last few years I have met with a number of cases of serious indisposition arising in persons occupying apartments covered with arsenical papers. In one instance the patient, a woman aged about forty years, suffered from headache, constriction and dryness of the throat, an irritable stomach, occasionally vomiting and violent colic. Those who occasionally slept in the same room were afflicted in a similar manner but not to the same extent. From the absence of other causes, I was led to believe that it might be due to the paper, which was green. This was examined and found to contain arsenic. It was removed and another substituted, when the symptoms soon disappeared.

Another case observed by me presented some peculiarities. Two small children were affected with nausea, headache, pain in the abdomen, dryness of the mouth and throat, and great depression, while the nurse who occupied the same apartment remained in good health. It was suggested as possible that the green paper covering the walls of the room might contain arsenic, and that

the children touching the paper with their fingers and applying them to their mouth, had thus conveyed poison into their system. The paper I examined. It was coarse, and had upon it large green figures, composed principally of Scheele's green. The pigment was loosely attached, so that a little friction sufficed to separate an appreciable quantity of the pigment. The paper was removed, the paste was not decomposed—it was apparently dry and sound, as were also the walls. With a new paper the sickness soon disappeared, thus showing that the arsenic was the cause of the children's indisposition.

A number of cases have been noted, where injurious effects have resulted from the application of arsenical papers to damp (new) walls. Whether, as has been suggested, the gaseous arseniuretted hydrogen is developed, or simply because minute particles of the pigment are detached from the paper, I will not pretend to decide, though the latter presumption seems to me more probable.

The following case occurred with acquaintances of mine: A gentleman and his wife sleeping in a new house, complained in the morning of headache and nausea, which passed off during the day. This occurring a number of times, they occupied an adjoining apartment and were not affected. Returning to their former room they were indisposed as before. Upon removing the wall paper which contained arsenic, and substituting another paper destitute of it, no ill effects were afterwards experienced from sleeping in the room.

It may here be mentioned that the workmen employed in manufacturing arsenical papers often suffer serious indisposition, as for example, eruption of the skin, œdema, irritation of the mucous membrane of the nostrils, and, also, prostration of strength, headache and colicky pains. (*Annuaire de Therapu.* 1846, and *Ann. d'Hygiène* 1847.) Upon making inquiries of a paper hanger regarding any ill effects he had observed arising from wall papers, I was informed by him that on papering apartments with green wall paper, his workmen had on a number of occasions complained of headache and nausea, which was not the case when they were working with other colored papers. That the sickness mentioned was due to the inhalation of particles of the arsenical compound I have no doubt, as similar statements have been made by others.

That the indisposition noticed in the foregoing cases and in similar ones, was really due to the arsenic contained in the wall paper, we have no reason to doubt. The question may, however, be asked, has arsenic been found in the atmosphere, or in the dust of apartments covered with wall papers, or in the system of those who have occupied such apartments? This question must be answered in the affirmative. M. Fabien, (*Archiv. de Pharmacie*, t. ciii. p. 259,) examined critically a number of cases of supposed

arsenical poisoning from this cause. He detected the presence of arsenic and copper in the dust of the apartment, and that of arsenic in the urine of those who were affected.

M. Taylor, in the *Repertoire de Chimie*, (1858, p. 148,) mentions that a friend of his became ill, suffering with inflammation of the eyes, &c. The recovery and the relapse coincided, the former with a change in the paper of his library, the latter with the rearrangement of the books of the same library. He was thus led to believe that the sickness was due to the pigment detached from the paper, which was colored with arsenite of copper. An analysis of the dust collected from the book-shelves revealed the presence of arsenic. The correctness of this opinion was confirmed by the analysis of the dust from another library, which also was found to contain the same substance.

In the *London Lancet*, (Feb. 1861, p. 192,) is a report of a case by Dr. Metcalf, of a child, aged three and a half years, who died from the effects of arsenic obtained from the wall paper. He at first complained, in the morning, of chilliness, and was soon afterwards seized with convulsions, and shortly was in a semi-comatose state. The bowels acted several times, the stools passing off involuntarily, watery, bilious, and very offensive; the pulse was quick, the tongue white; there was no abdominal tenderness on pressure. In the evening slight convulsive twitchings of the facial muscles were observed. On the following morning the child was in a state of asphyxia, the surface cold, the pulse feeble, countenance livid. In the afternoon, he was seized with severe tetanic convulsions, and from that time alternations of repose and convulsions, (amounting sometimes to perfect opisthotonos,) continued until the little sufferer died, thirty-eight hours after the attack. Another child had similar symptoms and recovered.

The wall paper covering the apartment which the children occupied, was a flock paper of a dull green tint; the pigment was very loosely attached to the paper, so that by the slightest friction particles were detached. It contained thirty-three grains and seventy-six hundredths of a grain of arsenious acid to the square foot. The stomach and liver of the child were found to contain both arsenic and copper.

It may be here mentioned that experiments have been made in rooms lined with arsenical paper, to determine whether there existed in the atmosphere any arsenic in the gaseous form, as arseniuretted hydrogen. The air after having passed through proper apparatus to remove any solid particles, was conducted into a solution of nitrate of silver. No arsenic was found in the solution upon careful examination, thus rendering it probable that the ill effects observed are produced by the particles of the arsenical compounds, mechanically dislodged from their connection with the paper.

Although but comparatively few cases of poisoning from arseni-

cal wall papers have been reported, yet enough have been brought forward to render it evident that great danger to the health, and even death may follow their use ; besides, it must be remembered that most probably many cases of sickness have arisen from this cause and have been unsuspected.

Window Shades. The green window shades, so much used in this country, are often colored with arsenical pigments. In many of them the quantity of arsenic present is as great as in the wall papers. A writer in the American Medical Journal (July, 1860,) says he found in one specimen a quantity of arsenious acid which for a window shade three feet by eight, would be equal to one third of an avoirdupois pound. In none of our experiments have we found so large a quantity, but still enough to render it probable that there is great danger in their use, especially when it is considered that window shades are frequently handled and exposed to considerable friction, in rolling them up and down.

Paper for Cards, Boxes, &c. Many of the green papers largely used for cards, boxes, &c., are colored with arsenical pigments. In one specimen of card paper, colored on both sides the amount of arsenious acid present was in the proportion of thirty-two grains and seven-tenths of a grain to the square foot. An ordinary ticket such as is used for public exhibitions, would, if made of this paper, contain two grains and twelve-hundredths of a grain of arsenious acid.

A green paper used for covering boxes, &c., contained arsenious acid to the extent of eighteen grains to the square foot. The fact that small children not unfrequently play with cards, putting them to their mouths, leads us to believe that is not improbable that sickness may not unfrequently have arisen in them from this cause, as has been alleged.

House Painting. The arsenical pigments are frequently employed for painting the interior of houses. In some cases, a short time after the paint has been applied, a highly disagreeable odor has been evolved. By some it is thought that arseniuretted hydrogen is produced ; others are inclined to believe that, as is probably the case with white lead, the poison may be carried off in vapor, as the oil of turpentine evaporates. Those who have slept in such newly painted rooms, have complained in the morning of nausea, headache, pain in the chest, dryness of the fauces, &c., (see *Gaz. Med.* 1847, p. 130,) while if the paint was scraped off, and another applied, the disagreeable symptoms disappeared. It has been noticed that workmen engaged in painting apartments with these colors, have not unfrequently complained of the symptoms just mentioned.

It may be noted as worthy of consideration, that if apartments

thus painted were properly varnished, the danger would be to a great extent removed. The same remark applies to papers thus painted: varnishing would lessen the danger, and without injury to the color, which, indeed, it would rather heighten.

Textile Fabrics. One of the most dangerous and more recent applications of the arsenical pigments is in the coloring of delicate textile fabrics, such as jaconets, muslins, tulles, tarletans, &c. In these fabrics there are lines, bands, or other designs in Schweinfurth green: sometimes, indeed, the fabric is colored green over its whole surface. The pigment is not firmly attached, as are the colors in most fabrics, but is, in fact, simply pasted upon the material by means of gum, starch, or albumen, and in so imperfect a manner that the least rubbing or shaking suffices to detach an appreciable quantity. In Paris a number of cases have been reported, where dress makers have been made seriously ill, in working upon such fabrics. Those clothed with these materials, in moving, diffuse through the atmosphere particles of the poison, which are absorbed by the organs of respiration, or by the pores of the skin. In a late number of *l'Union Médicale* the following case is reported: A young lady attended a soirée, attired in a dress of green tarletan. After having danced a considerable time, she was attacked with a sense of numbness and feebleness of the lower extremities, with oppression of the chest, with vertigo and headache, and was obliged to quit the ball. The symptoms gradually disappeared, but she did not perfectly recover till the third day. No other cause having been discovered for the sudden illness, the dress was suspected to have produced it. Upon being examined, the tarletan was found to contain a large quantity of arsenious acid, and copper. Considering the large amount of material contained in the dresses of the present fashion, Professor Blasius thought it not unlikely that in the movements of the young lady in dancing, when the material was exposed to constant friction, a sufficient quantity of the loosely adherent arsenical pigment might have been detached, and being inhaled by the lungs, have given rise to the symptoms of arsenical poisoning observed.

Articles of personal decoration. Many of the imitation green leaves and flowers have been found to be colored with the arsenical pigments previously mentioned. The wreaths and vines used by ladies on festive occasions often contain these colors in large proportions. Generally they are but loosely attached to the materials on which they rest, and particles of them are almost sure to be thrown off by slight movements.

Candies, Bonbons, etc. Many articles of confectionary are colored green by arsenical compounds. Thus, the sugar ornaments, made in various forms as of animals, &c., have been found

colored with arsenite of copper. Especially is this the case with the ornaments used for cakes, as bunches of flowers. In many of these the leaves and some of the petals are colored with this substance. In procuring in this city specimens of various articles for examination, but few candies were found colored green, and none of those examined contained arsenic. We may, however, mention that many of the "sticks" of sugared caraway seeds were wound spirally with a narrow strip of green paper containing arsenic in considerable quantity, and which might possibly give rise to indisposition in children, from their habit of applying the end of the cylinders to their mouths and thus emptying them.

That arsenical compounds are extensively used for coloring papers, textile fabrics, &c., no one can doubt, and that many cases of serious illness and even death have followed their use, is no longer a question. There would be some excuse for manufacturers employing these poisonous compounds if no other materials answering the same purpose could be obtained. But there are others equally beautiful and desirable. In Prussia, and I believe in one or two other European countries, where the use of such colors is prohibited, as beautiful articles are manufactured as with us, and yet wholly free from noxious qualities. In the absence of any regulations prohibiting the use of these arsenical compounds for the purposes we have mentioned, we must expect that their use will extend, and ill effects follow, at least until the public are enlightened. When the community are acquainted with the injury likely to arise from the use of materials thus colored, we believe that their intelligence will prevent them risking the health, and possibly the lives, of themselves and their children, to gratify a mere choice in the selection of wall papers and of the other articles of which we have spoken.

SELECTIONS.

EXOPHTHALMIC GOITRE.—In the beginning of last November, a woman, aged twenty-four, from the village of Bagnolet, was admitted into Mr. Trousseau's wards, for the treatment of the singular disease which that Professor calls *exophthalmic goitre*.

Goitre is not prevalent at Bagnolet. The patient had been confined, but no enlargement of the neck was noticed during gestation. She had, however, suffered some domestic trouble, and, after violent emotion, experienced severe palpitation of the heart. Her eyes assumed a strange look, which her neighbors observed; they were protruding, bright, and restless, and her sight became

shorter and less distinct. Her neck then began to increase in size, a fact she herself ascertained from the daily increasing difficulty she found to fasten her collar. We should further add that menstruation ceased, and the appetite so much increased that four pounds of bread a day were barely sufficient to satisfy its cravings. When the woman was admitted to the Hotel-Dieu, Mr. Trousseau noticed the peculiar aspect of the eyes, which imparted to the entire countenance a singular wildness of character. The eyes were prominent, and unusually bright; the thyroid gland was much developed and formed a protuberance in front of the larynx and trachea. The pulsations of the heart were tumultuous, visible to the eye, and were propagated to the carotids and to the thyroidian tumor. On auscultation of the enlarged gland a continuous murmur was audible with an increment at each arterial pulsation, and when it was grasped by the fingers, it communicated the sense of expansion peculiar to aneurism. As to the motions and sounds of the heart, the impulse was found to be violent, and at the base a soft murmur was discerned, which extended along the aorta; the pulse fluctuated between 110 and 130, and a purring tremor existed in the carotids.

At first sight, the predominance of a chloro-anæmic condition might here be suspected, a view which was adopted by Mr. Trousseau, who accordingly prescribed chalybeates; but these remedies, far from giving relief, seemed to increase the severity of the symptoms. The Professor found it, therefore, necessary to alter the treatment, and he had the good fortune to light upon a method which proved successful: 8 or 10 drops of tincture of digitalis were prescribed hourly, until the pulse fell to 70. The tumor was covered with ice, and leeches applied to the knees and thighs restored menstruation; considerable improvement was experienced; but on the 17th of November another paroxysm occurred, which had nearly subsided by the 26th. On the 1st of December, the expression of the countenance was more natural, the thyroidian enlargement had decreased, and the heart seemed to have recovered comparative tranquility.

In the course of the lectures delivered on this subject by Mr. Trousseau, the Professor related two other cases of exophthalmic goitre, which occurred in the practice of Dr. Labarraque, of Paris.

The first patient was a boy of fourteen and a half years, who at the age of twelve experienced some slight difficulty in breathing. Twelve months afterwards, vision became shorter and less distinct, and he was obliged to use strong glasses. In 1860, at Villerville, for the first time, the neck was observed to be large, especially at its base. In a few days, the goitre progressed rapidly, the sea-baths seemed to disagree, and violent dyspnoea set in with impending suffocation. A very hot foot-bath and mustard poultices relieved these distressing symptoms, and Dr. Lebâtard advised for the treatment of the bronchocele iodide of lead exter-

nally, and the syrup of iodide of iron internally. This medication did not allay the patient's sufferings, but on the contrary seemed to exacerbate them, and when the child was brought back to Paris, he was so weak and so much oppressed in his breathing, that it was considered inexpedient to persevere in the exhibition of iodine. One night, Messrs. Blache, Trousseau, and Labarraque were summoned in all haste; they found the boy nearly suffocated, his voice was extinct, his eyes protruding from the sockets, the pulse full and hard, and the thyroid gland, enormously distended, overlapped the anterior aspect of the neck, and throbbed violently with each arterial pulsation. The three gentlemen inclined to tracheotomy, but the child might expire before the apparatus required for the operation could be got ready. Twelve ounces of blood were therefore taken from the arm; Junod's large metallic exhausters, foot and hand baths, mustard poultices, drastic purgatives and tincture of digitalis (100 drops in ten hours), together with bladders filled with ice around the neck, such were the measures resorted to in addition to venesection. The dyspnoea continued, it is true, in a high degree during the day, but asphyxia was averted, and on the ensuing night the patient slept nine hours without interruption. Three weeks later he was enabled to walk two miles and a half to call on Mr. Trousseau, and now the goitre has almost entirely disappeared, and neither palpitations of the heart nor exophthalmia exist.

Mr. Labarraque's second case is one of chronic exophthalmic goitre with exacerbations. In 1849, Mrs V—, aged forty-six, experienced a violent fright, and was seized on the same day with obstinate palpitations of the heart. Some six months later, the thyroid gland increased in size, the eyes became prominent, the vision was at first much shortened, and amblyopia soon became established. The patient was troubled with *muscae volitantes*, and saw black specks whenever she looked at a white object. The menses at this period ceased and bulimia with diarrhoea set in. Despite the amenorrhoea, Mrs. V—, became pregnant, and from this time forward the symptoms of the disease gradually diminished. In October 1851, her general health being excellent at the time, she was confined; but in 1855 the previously observed phenomena recurred after an attack of pleurisy. The diarrhoea returned, together with an insatiable craving for food, emaciation, debility, exophthalmia, thyroidian swelling, palpitation of the heart, loss of sleep, etc. Venesection, drastics, and digitalis permitted the patient after a few months to resume her usual occupations. She continued, however, in a highly irritable and nervous condition, and her hand was so unsteady that she could not legibly sign her name. The eyes were prominent, and the thyroid enlarged, especially in its right lobe. The pulse at the wrist varied between 140 and 108; its fulness, however, was natural, whilst

the impulse of the carotids remained considerable, a contrast which Graves and others have not failed to point out.

Exophthalmic goitre is not so unusual a disease as might be supposed. Mr. Trousseau has met with nine cases in six years, and he is inclined to believe that the cases of iodism, communicated to the Academy of Medicine by Mr. Rilliet, of Geneva, were instances of the complaint.

With some few exceptions, the disease occurs more especially in women, in the adolescent and in persons of a nervous habit. One of the most striking symptoms of the malady is the strange appearance of the eyes; whether blue or black, they are both unusually bright and movable; somewhat later they become prominent, a fact of which the patients are aware, as they support the eye-ball with the hand, as if it were in danger of dropping out. The effects of the protrusion of the eyes on vision are readily conceived—it induces short-sightedness, but not squinting, a circumstance of some importance as regards diagnosis.

Disturbance of the action of the heart usually precedes the perturbation of vision; the three cases we have related indicate the nature of the symptoms.

The bronchocele sometimes sets in suddenly, and gradually at others; when it acquires considerable magnitude the adjacent organs suffer from pressure, and the distress and oppression complained of by the patients, are thus referable to mechanical causes.

Disturbance of the action of the heart, exophthalmia, and bronchocele are, therefore, the three pathological elements which constitute the new morbid entity, to which the attention of the profession is invited. The disease, moreover, is decidedly paroxysmic, and this, together with other considerations, seems to indicate that its nature is similar to that of neurosis. It is not a cachexia; anæmia, and diminution of the average amount of blood corpuscles are present, it is true, but as consequences of the symptoms of the disease, which Mr. Trousseau considers, as we have stated, in the light of a neurosis attended with local congestion, the proximate cause being an alteration of the nervous structures belonging to the vasculo-motor system.

The effects of treatment further show that neither anæmia nor goitre constitute the disease. Thus chalybeates and iodine aggravate its manifestations; and, as we have stated, the remedial agents which are most beneficial are those which allay cardiac excitement and rapidly deobstruct the circulation. Venesection is a valuable resource to avert imminent asphyxia, and also the application of bags of ice to the thyroidian enlargement, drastics, large mustard-poultices, and Mr. Junod's monster exhausters. When the paroxysm has subsided, the special sedative of the vascular system, digitalis, should be prescribed to contend with the cardiac neurosis. The tincture may be exhibited in hourly doses of eight or ten drops (French Ph.), until vertigo, headache, and

nausea have been induced. When the pulse has fallen to 60, it is time to discontinue the medicine.*

In the chronic form of the complaint, Mr. Trousseau has derived benefit from the water-cure. The advantages of this method in anæmia, chlorosis, hysteria, visceral obstruction, etc., are well known, and its favorable influence on a neurotic disease, such as exophthalmic goitre, will therefore occasion no surprise. Thus, in the case of a lady from Crest, in the Département de la Drôme, Mr. Trousseau observed a complete recovery due to hydrotherapeutic treatment, although the paroxysms of exophthalmic goitre had recurred no less than six times; in this instance Dr. Gillebert d'Harcourt had remarked that each relapse was preceded by diminution or suppression of the catamenia, and at Mr. Trousseau's suggestion directed the hydropathic measures in such a manner as to induce uterine congestion, a line of conduct which was followed by the very best results. It is scarcely possible to lay too much stress on the reëstablishment of menstruation, an important indication, which can be satisfied when only the hemorrhagic tendency is present; otherwise no good result is to be expected. Interfere, on the contrary, when nature seems to require assistance, and you will find then that some slight counter-irritation or a few leeches to the knees will be productive of the most beneficial effects.

As an extreme measure, a last resource, which may be adopted in case of imminent asphyxia, we may mention tracheotomy. It is an extremely perilous operation, and the enormously increased vascularity of the thyroid may cause the patient to expire under the knife. Thanks, however, to Mr. Chassaignac's admirable method, effusion of blood may perhaps even in this case be averted, and he recommends the *écraseur* to be used as follows: After taking up a transversal fold of the skin, the surgeon should include in one loop of the chain-saw all the soft parts in front of the trachea, which must then be opened to receive the canula. Whether this procedure be adopted or that recommended by Dr. Demarquay, who combines the action of the bistoury with that of the *écraseur*, reserving to the latter the section between two ligatures of the thyrodian bridge, it will always be requisite to take every precaution against a hemorrhage which may be rapidly fatal. (*Championnière's Journal.*)

* The tinct. digitalis of the French pharmacopœia is rather more than twice as strong as the London preparation, and is obtained by macerating for *fourteen days* 4 oz. of dried leaves of digitalis in one pint of proof spirit.

Influence of Arsenious Acid upon the Waste of the Animal Tissue.

According to experiments made by Professor Schmidt and Dr. Stuerzwage, of Dorpat, arsenious acid, when introduced into the circulation, occasions a considerable diminution of the ordinary waste of the tissues.

This decrease, which amounts to from twenty to forty per cent., occurs even after the administration of very small doses; more rapidly if the acid is injected directly into the veins; more slowly, yet with equal intensity, if absorbed from the intestines. The action is most striking in the case of fowls, which neither vomit after injection of the arsenic, nor reject their accustomed food; but even in cats, which are subject to vomiting after the injection, and must therefore be regarded as in a starving condition, the waste of the organism was diminished about twenty per cent., after subtracting the decrease occasioned by the mere want of food.

This fact satisfactorily explains the fattening of horses after small doses of arsenious acid, a phenomenon well known to horse dealers.

An amount of fat and albuminous substances equivalent to the repressed carbonic acid and urea remains in the body and increases its weight, if the animal receives at the same time a sufficient amount of food.

When larger doses of arsenious acid are given, nervous symptoms appear, which may be classified in two groups—spinal irritation and paralysis. To the first may be ascribed the vomiting, the accelerated respiration, the feeble pulse; to the last, the inclination to sleep, the weakness, and the retarded and labored breathing. Both may be explained by the very considerable congestion of the central organs which was constantly observed in post-mortem examinations.

These experiments are of particular interest, since they go far to prove the complete reliability of the published accounts of the custom of "arsenic eating," which is said to prevail among the peasantry of several Austrian provinces. These accounts have been time and again held up to ridicule by toxicologists, and as a rule, have been received with suspicion by all scientific men.

During the past year, a great amount of evidence bearing on this subject has been collected by Prof. Heisch, F. R. C., and published in the *London Chemical News* (May 19, 1860), so that if human testimony is worth anything, the fact of the existence of arsenic eaters must be regarded as beyond a doubt. Prof. Heisch states that he has been informed by Dr. Lorenz, Imperial

Professor of Natural History, formerly of Salzburg, that he knows that arsenic is commonly taken by the peasants in Styria, the Tyrol, and the Salzkammergut, principally by huntsmen and wood cutters, to improve their wind and prevent fatigue. He gives the following particulars :

The arsenic is taken pure in some warm liquid, as coffee, fasting, beginning with a bit the size of a pin's head, and increasing to that of a pea. The complexion and general appearance are much improved, and the parties using it seldom look so old as they really are ; but he has never heard of any case in which it was used to improve personal beauty, though he cannot say that it is never so used. The first dose is always followed by a slight symptom of poisoning, such as burning pain in the stomach and sickness, but not very severe. Once begun, it can only be left off by very gradually diminishing the daily dose, as a sudden cessation causes sickness, burning pains in the stomach, and other symptoms of poisoning, very speedily followed by death. As a rule, arsenic eaters are very long lived, and are peculiarly exempt from infectious diseases, fevers, etc.; but, unless they gradually give up the practice, invariably die suddenly at last. In some arsenic works near Salzburg with which he is acquainted, he says the only men who can stand the work for any time are those who swallow daily doses of arsenic, the fumes, etc., soon killing the others.

Prof. E. Kopp has also stated (*Conyrtles Rendus*, 1856), that he found in the course of a series of experiments upon arsenic acid, which was manufactured upon a great scale, and largely employed in calico printing by him, that the weight of the body rapidly increased, some twenty pounds having been gained in the course of the two months during which he was subject to absorb the acid, his hands having been frequently in contact with the arsenical solution, arsenic being detected the while in his solid and liquid excrements. As soon, however, as the exposure to the arsenic ceased, his weight began to decrease, and in nine or ten weeks fell back to its normal amount—one hundred and fifty pounds. It is reasonable, therefore, that direct, positive evidence like this,—though the instance be solitary,—where the subject of the experiment was a healthy, vigorous man, and a trained observer, ought to outweigh almost any amount of negative testimony, such as has been brought forward by physicians who have not witnessed similar effects upon their *diseased* patients, when the latter were treated with arsenical preparations. Another fact, says Prof. Heisch, mentioned to me by some friends, is well worthy of note. They say: "In this part of the world, when a grave yard is full, it is shut up for about twelve years, when all the graves which are not private property by purchase are dug up, the bones collected in the charnel house, the ground plowed over, and burying begins again. On these occasions, the bodies of arsenic eaters

are found almost unchanged, and recognizable by their friends. Many people suppose that the finding of their bodies is the origin of the story of the vampire." In the *Medicinisches Jahrbuch des Oester: Kaiserstats*, 1822, there is a report by Professor Schallgruber, of the Imperial Lyceum at Grätz, of an investigation undertaken by order of government into various cases of poisoning by arsenic. After giving details of six post-mortem examinations, he says: "The reason of the frequency of these sad cases appears to me to be the familiarity with arsenic which exists in our country, particularly the higher parts. There is hardly a district in upper Styria where you will not find arsenic in at least one house, under the name of hydrach. They use it for the complaints of domestic animals, to kill vermin, and as a stomachic to excite an appetite. I saw one peasant show another, on the point of a knife, how much arsenic he took daily, without which, he said, he could not live; the quantity I should estimate at two grains."

In this connection it must not be forgotten that, in the opinion of many scientific men, the healing action of various mineral waters may depend, in part at least, upon the arsenic which these springs are known to contain—a doctrine which is publicly taught by several of the chemical professors at Paris.

F. H. Storer, Esq., in a recent communication to Silliman's Journal on this subject, says:

Taken as a whole, the medical evidence which has fallen under our notice is adverse to the possibility of "arsenic eating," only in so far as relates to the large quantities of the poison which, as is affirmed, the human body can accustom itself, by long continued habit, to support with impunity. This last inquiry, however interesting in itself, is one on which very little is known with certainty as yet, and is plainly of quite secondary importance, in a scientific point of view, to that of the beneficial action of moderate doses of arsenious acid, which would now appear to be proved. (*Annual of Scientific Discovery*, for 1861.)

Non-Explosiveness of Kerosene Oil. Communicated to the Boston Morning Journal, by A. A. HAYES, M. D., State Assayer.

Some recent cases of accidents arising from the inflammation of oils called "Kerosene," have led to an experimental research on the possibility of danger connected with the consumption of coal oil for affording light.

"Kerosene" is a term applied by the earlier manufacturers to

coal oil purified in a special manner, and as a "trade name." But by the public generally this term is applied to all oils made from coal and petroleum.

The purified oil—when properly manufactured—obtained from different kinds of coal, or from petroleum, (native oil of the oil springs), has nearly the same constant characters in its finished state. Its character of non-explosiveness, its value for illuminating purposes, and entire safety in use ordinarily, *depends entirely on the skill of the manufacturer, his knowledge, and moral sense in his business transactions.*

By the processes of the manufacture, the standard oils are deprived of their more volatile and inflammable parts, they have high boiling points, and in the character of fixity, approach to spermaceti and other oils, known as "fixed oils." Like lard and similar oils, they do not emit volatile explosive vapors at common temperatures, and they will extinguish small flames, when these are forced into them, being thus distinguished from volatile oils.

Only after they have been heated to the point at which their vapors rise freely in the air, will flame communicate with them and continue to burn. This burning of the vapor is a simple *inflammation* not attended by explosion; nor can explosion be produced with the vapor, excepting when we mix a little vapor with a large volume of air and heat the mixture. Hence, practically, the standard oils from the different sources named, may be considered safe as fuel for lamps used under all ordinary exposures, and no accident has been traced to the consumption of such oil, notwithstanding the very great extension of its application at present, in this way.

The accident which occurred at Waltham has been made the subject of public comment, and has excited fears in relation to the safety of coal oils in use.

A sample of the oil which caused the burning at Waltham, taken with the precautions necessary to a legal inquiry, has been placed in my hands. Analysis at once demonstrated *that it was not Kerosene or standard oil*, but a mixture which was readily inflammable at 70° F., emitting copious vapors, and composed in large part of spirits of turpentine. This accident, therefore, was doubtless the result of the sale of a *falsified* oil, and the affliction and loss which followed its inflammation, are chargeable to the *fraudulent practice of mixing substances of unlike values which is becoming every day more common*, and which renders the procuring of pure articles difficult.

The consumers of the standard oils obtained from coal and oil springs should be assured that their supplies were purchased from well-known, reliable manufacturers, and all mixtures of light spirits with alcohol, fusel oil, and turpentine, under the numerous fancy names now so common, should be rejected without hesitation. Any one may apply a simple test of inflammability, by al-

lowing two spoonfuls of the oil, contained in a tea-cup warmed to 75° or 80°, to be brought in contact with the flame of a lamp-lighter. No danger attends the trial, and if the vapor or the oil will inflame, great risk will be incurred in consuming it.

True explosions occur with the vapors of burning fluid, the light naphthas of oil spring oils and their mixtures; the use of which, since pure coal oils have been introduced, is no longer economical, and has always been attended by wanton sacrifice and exposure of human life.

ABSTRACT OF CURRENT MEDICAL LITERATURE.

TETANUS. The *American Medical Times*, for February 2d and 9th, contains an interesting essay on the pathology of tetanus, by Dr. W. Hanna Thomson, of New York. The burden of the article is to show that the disease is one of nervous prostration, produced by a morbid change in the blood, rather than one of irritation of the nervous system; "the result of the action, through the circulation in the nervous system of a virus or poison, which in its origin and character bears analogies to the virus of hydrophobia and strychnine." He does not intend to prove any relationship between tetanus and hydrophobia, but only an analogy. To support his theory, the author adduces several facts: 1. In tetanus, as well as in hydrophobia, there are cases in which spasmodic action may be moderate or nearly absent, and yet death occurs with great nervous prostration. 2. Magendie, Breschet and Hertwig have proved by experiment that hydrophobia can be as certainly communicated by injection of the blood of the rabid animal as by inoculation of saliva. 3. Not one in a thousand gets rid of tetanus by sundering the nervous communication with the local irritation. "Local nervous irritation is not necessarily excluded by the hematic theory; but on the contrary, if the wound is the generating nidus of a poison, it is readily conceivable that the nerves of the part should be peculiarly affected, just as nerves may be locally tetanized and inflamed by the topical application of strychnine." 4. It is begging the question to assume a state of "extreme reflex tension" as the primary or predisposing cause of tetanus. For it is difficult to believe of a strong man, engaged in active labor, that his spinal cord is in a condition of abnormal irritability, so that a wound will be therefore followed by tetanic symptoms. 5. The dependence of tetanus on extremes of temperature, on vitiated states of the atmosphere, as formerly in the Dublin Lying-In Hospital, or a warm and moist atmosphere, and various meteorologi-

cal conditions, point strongly to a cause which operates by deterioration of the blood. 6. The total failure to produce a lasting impression upon the disease by the most powerful narcotics.

We would remark that if there are objections to considering tetanus a disease originating in the nervous system, there are, on the other hand, still greater difficulties in the way of adopting the belief that the nervous symptoms arise from a morbid change in the blood. "Professor Robinson, of Edinburgh, was once at table, when a negro servant lacerated his thumb by the fracture of a china dish. He was seized with convulsions almost instantly, and died with tetanic symptoms in a quarter of an hour." (*Watson's Practice*.) It is difficult to believe that the tetanic symptoms, fatal in fifteen minutes from the receipt of the injury, were the result of a primary morbid change in the blood. The interval is too short to allow us to suppose that any such alteration could take place. And if the impression from the wound was received directly by the nervous system in this case, with no blood poisoning, why not in all? There is no case of any form of demonstrable blood poisoning with which we are acquainted, that gives rise to tetanic symptoms, and therefore it seems an unnecessary assumption to suppose that the symptoms of nervous irritability in tetanus are preceded by a morbid change in the blood.

Another very significant reason for considering it a disease of nervous irritation, is found in the fact that the use of powerful nervous sedatives in the treatment of tetanus has been attended with more success than any other method. The treatment of tetanus is, as Watson says, a mortifying subject. "Almost all the acute and severe traumatic cases are fatal. Hennen declares that he never saw a case of 'acute symptomatic tetanus' recover. Dr. Dickinson found all curative measures followed by 'unqualified disappointment.' Mr. Morgan uses these words: 'I have never yet seen or heard of an instance of recovery from acute tetanus.' Under every plan of management a vast majority die." Opium, blood-letting, the cold bath, wine, mercury, purgatives, digitalis, tobacco, musk, prussic acid, belladonna, and turpentine, have all been employed, and an occasional recovery under the use of one or another of them has given rise to sanguine belief in its efficacy.

But within a few years many cases have occurred, both idiopathic and traumatic, which have recovered under the steady employment of various powerful cerebral and nervous sedatives. In the London Lancet, the Boston Medical and Surgical Journal, and the American Medical Times of the last six months, are to be found the reports of many cases of recoveries, under the use of chloroform, of aconite, and some other of the acrid narcotics. Woorara, which was first proposed and used with some success in comparative experiments more than twenty years ago, was administered in the Italian campaign of 1859 with favorable results.

This seems to militate against the view that tetanus is a blood disease. A morbid condition of the blood productive of a severe and fatal depression of the nervous system, could hardly be removed by Woorara, the annihilator of nerve force, the antidote of strychnia.

Still another method of treating tetanus was proposed in a late number of the London *Lancet* by Dr. Joseph Reid, who treated a serious case of idiopathic tetanus with liquor potassæ, in combination with syrup of poppies and camphor water, with early amendment and final recovery. The alkali was adopted on theoretical grounds: "To obtain a less easily excited condition of the system, also diminution in the tonicity of muscular fibre, and a decrease in that portion of the blood through whose agency is supplied irritability or vital activity to the nervous and muscular structures."

DIURETIC ACTION OF COLCHICUM. Prof. Wm. A. Hammond, of the University of Maryland, in some experiments instituted upon himself and others, arrived at the following conclusions: 1st, That the colchicum increases the quantity of urine; 2d, that it increases the total amount of solid matters eliminated; 3d, that this increase is mainly due to an augmentation of the organic matter; 4th, that the amount of uric acid does not appear to be affected.

He thinks colchicum must be allowed to be a true depurator of the blood, and that hence we have an explanation of its good effects in those blood diseases, gout and rheumatism.

It is seen that no constant effect was produced upon the quantity of uric acid eliminated, and hence these experiments do not conflict with those of Dr. Garrod. We are not, however, bound to admit that the presence of uric acid in the blood in increased amount during a paroxysm of gout or rheumatism, is the cause of that paroxysm; and, consequently, because colchicum does not increase the quantity of this substance found in the urine, we are not to suppose that the remedy in question does not exert its influence through the kidneys. (*American Medical Monthly.*)

PROXIMATE CAUSE OF DROPSY IN BRIGHT'S DISEASE. Dr. Fountain, of Davenport, Iowa, examines the several explanations which have been proposed, of the cause of dropsy in granular nephritis, and pronounces in favor of the opinion expressed by Andral and Williams, that the dropsy is due to the loss of the albuminous principle of the blood. He says further, "Whether the loss of albumen from the blood produces the dropsy by permitting a more rapid transudation through the walls of the capillaries, as stated by Dr. Williams, or by reducing their power of reabsorbing the watery portion of the cytoblastema, (the blastema of Schwann,) after the appropriation by the tissues of the elements of nutrition, may be considered an open question. . . . The serous portion of the

blood, with soluble elements of nutrition, must pass constantly and rapidly through the walls of the capillaries to supply the wants of the various tissues, the *débris* of which must in return be carried back in solution with the remaining watery portion of the blastema. . . . Under whatever law this process takes place, it is certain that a free influx of serous fluid from the capillaries into the tissues exterior to their walls, must go on constantly in health, and the return of what is not required for nutrition must be as uninterrupted. It is evident, therefore, that a dropsical accumulation will take place, if this return current is interrupted; and may not one of the conditions essential to the due performance of this function be the presence of a certain amount of albumen in the blood?" (*Medical and Surgical Reporter.*)

ALBUMINURIA IN DROPSY. From a clinical lecture on this subject by Dr. Gerhard, published in the *Philadelphia Medical and Surgical Reporter*, we cull the following observations:

"There is no doubt that in most cases where the urine contains much albumen, the patient will complain of other disorder than that of the kidneys, in which case the peculiar condition of the urine may remain for several hours only. But when the albumen continues to exist in the urine for a good while, there is always produced a certain degree of pallor of the skin, and a disordered condition of the whole body. Afterward, and sometime before the skin is excessively pallid, anasarca appears, which condition, however, is by no means confined to cases of albuminuria—existing also with diseases of the heart and other organs.

"In albuminuria there is more general anasarca; in disease of the heart dropsy takes place at first in the upper extremities, and there is not the same general infiltration of the cellular tissue of the body with liquid, and a large quantity of effusion will be found local, unless it tends to accumulate at the lower portion of the body.

"In the disease of the heart, where the patient is so far advanced as to become dropsical, it is very common to observe that he has also disease of the kidneys, and also that he has disease of the liver. But the reverse of this is not true, for there may be disorder of the kidneys without producing disease of the heart.

"A large and swollen face is not always to be relied on as diagnostic of dropsy, except in heart disease.

"The hands do not usually show slight effusions, though it is seen in the legs, from their being the most dependent portion of the body."

RELATION OF PLEURISY TO PHTHISIS. In presenting a case of double pleurisy to his class, Dr. Gerhard took occasion to make some remarks on the clinical relations between pleurisy and phthisis. "In these cases of double pleurisy there is a tendency

to the subsequent development of tubercles, even more than in ordinary pleurisy; and it should be borne in mind that every case of pleurisy creates a tendency to the development of phthisis, particularly if there is any hereditary or other predisposition.

Pleurisy is often but the first sign of tuberculous disease, and, sometimes, seems to produce it. While double pleurisy is more apt to be followed by tuberculosis, we find that in tuberculous patients, when attacked with pleurisy, there is a tendency to the development of the disease on both sides." (*Medical and Surgical Reporter.*)

EXPECTORATION IN PHTHISIS. In opposition to the opinion of many scientific men, Dr Dutcher, of Enon Valley, Pennsylvania, thinks the purulent sputa of tuberculous disease has pathognomonic characters under the microscope. "The chief characteristic of tubercular pus consists in the presence of withered pus-cells. Whenever these are found in the sputa, we may infer the existence of disorganizing disease. As a general rule, they are much smaller than the ordinary pus-cell. Their nuclei, under a magnifying power of 450 diameters, look shrivelled, and the cell-wall shrunken, and not very clearly defined in outline.

"In simple bronchitis or pneumonia, I have never yet found these cells in the sputa. In pneumonia they always assume the appearance of the healthy pus-cell, and it will only be in some very rare case that you will see the withered cell, when it is not associated with tuberculosis. The grade of inflammation must be very destructive, and the patients' vital powers very feeble, if they are found at all in the expectoration. In bronchitis I never saw them but once, and this was in an old lady of very feeble health: she had had the disease for three years, and I have no doubt, if an examination had been made after death, that tubercular disease would have been found associated with the bronchial, although there was no evidence of the kind from either percussion or auscultation." (*Ibid.*)

TREATMENT OF RATTLESNAKE BITES. The *North American Medico-Chirurgical Review* for March contains a very complete paper on this subject, by Dr. S. Weir Mitchell, of which we must make too brief an abstract.

The author examines very thoroughly all the antidotes for the bites of serpents, that have been in favor for several centuries, and exhibits their fallacies. "1. Fallacies in regard to their use, arising from want of exact knowledge as to the secretion of venom, and the mode in which the serpent uses its fangs and ejects the poison." On this point, he shows that from various causes, the fangs may sometimes fail to wound, and the wound which is produced is merely that of the harmless teeth of the lower jaw. So that antidotes used in such cases get credit which does not

belong to them. "2. Fallacies as to the nature of antidotes, arising from want of information in regard to the natural history of the disease caused by the venom of serpents." Under this head he avers that the bite of the rattlesnake is by no means invariably fatal. Of 57 cases reported, only five died; and his experiments on animals have confirmed the evidence of the reported cases of accidental bites.

"When an animal receives in any way a dose of venom, one of two things happens. If the animal is small, or at all events if relatively to the size of the animal the amount of venom injected is large, the animal dies very suddenly, acutely poisoned. If, on the other hand, the dose of venom is relatively small, the animal suffers to some extent with the symptoms of acute poisoning, and then passes into the state of chronic or secondary poisoning, which may endure for an indefinite period, and end in death or recovery. Acute poisoning in man is rare."

The symptoms are sudden prostration, deadly nausea and general weakness, with pallor, cold sweats, hurried respiration, quick and feeble pulse—coming on generally in a few minutes. If death takes place very soon, we find absolutely no lesions—the blood and the tissues are alike healthy in appearance, both to the naked and assisted eye.

"After a time—some hours—the blood becomes affected in a marked and singular manner, while the relations of tissue and fluid are so altered that passive hæmorrhages take place; jaundice occurs, and a variety of symptoms declare themselves as this or that organ becomes diseased and the seat of congestion or ecchymosis." Prof. Brainard, of Chicago, says that the fibrin disappears from the blood, and the blood corpuscles become altered, broken and more or less disintegrated.

"Meanwhile the local symptoms assume an importance which they do not possess in the acute stage, and may even become of paramount influence in deciding the fate of the patient. The wound is not always painful at first. The part becomes discolored and increasingly painful, and these changes extend up the limb, and reaching the trunk swell one side or the whole body. The swelling is not inflammatory, but arises from the gradual effusion of blood, which has lost power to coagulate, and which therefore extends from the broken vessels at the seat of the wound. The later swelling is also due to œdema. The pain is excruciating and does not lessen till gangrene begins, hæmorrhage begins, diarrhoea may set in, and convulsions may occur, but are extremely rare in man. The mind is usually clear."

Blood drawn from a poisoned dog coagulated well four and a half hours after he was bitten, at twenty hours very feebly, at twenty-seven and a half hours not at all. On the second day he began to recover; on the fourth day, the blood again exhibited a very small, loose clot. At the close of two weeks, he was active and well, except that the wound was still open.

The post-mortem appearances are chiefly very extensive and large extravasations, and complete and permanent fluidity of the blood.

We cannot afford space for details of experiments and cases from this extremely interesting paper, but must briefly present the results of the examination of the remedial measures most commonly used.

The local means are "1. Agents which remove the poison and the poisoned part, as excision and amputation. 2. Means which partially remove the venom, or more or less detain it in the injured part, as scarification, ligature, suction, and caustics. 3. Agents, which being applied or injected into the part, are supposed to destroy the venom, or render it in some way innocuous, as injections of iodine. 4. Applications or inunction of various substances, such as alcohol, indigo, ammonia, olive oil, poultices, etc.

Early excision has been successful, but any great mutilation is deprecated by the author, in view of the rarity of a fatal issue. The measures of the second class are good—laying open the wound and applying suction by the lips or cupping-glasses. Caustics, however, are of doubtful benefit. An intermittent ligature has been successfully used, so that the circulation may be restored in the limb at intervals, and the poison allowed to pass into the general circulation by degrees, and in such amount only as can be antidoted by stimulants. In the third class, there are no remedies of any proved value. The author takes them up in detail. Lugol's solution (an iodized solution of iodide of potassium) was proposed in 1853 by Dr. Brainard, as a subcutaneous injection. But Dr. Mitchell shows by comparative experiments that while iodine seemed to retard the constitutional action of the venom, it did not annul that action."

"The remedies still in vogue as internal antidotes are ammonia, olive oil, cedron, guaco, arsenic, Bibron's antidote (which is prepared as follows: *R. Potassii Iodidi*, grains iv; *hydrarg. chloridi corrosiv.*, grs ii; *bromini*, dr. v. *M.* Ten drops of this mixture diluted with a tablespoonful or two of wine or brandy constitute a dose, to be repeated if necessary), and alcoholic stimulants."

Dr. Mitchell is not satisfied, after experimenting with the most important of these remedies, that any dependence can be placed upon them for the cure of snake bites, with the single exception of alcohol. Alcohol he regards as a valuable reliance—"not as a neutralizing antidote, as it has been popularly regarded—but as a stimulus to be employed to buoy the patient over the prostration caused by venom poisoning. More than this it certainly is not, and those who have looked upon it as a direct chemical antidote, and as available for local treatment, need but be told, to settle the matter, that a mixture of alcohol and venom is not less poisonous than unmixed venom." "Intoxication should be avoided, on ac-

count of the debility which it induces; a moderate exhilaration is all that is necessary. We should not seek to do more, in using the alcohol treatment, than merely to excite and sustain the flagging energies of the system, just as we would desire to do were the evil to be remedied an overdose of tartar emetic."

PATHOGNOMONIC SIGN OF SCARLATINA. Mr. Bouchut reports as a sign which distinguishes scarlatina from measles, erythema, erysipelas, etc., that an enduring *white stripe* is produced by drawing the back of the nail, the point of a probe, or any hard substance over the skin where the eruption exists. The white streak lasts one or two minutes, and sometimes more. (*Championnière's Journal.*)

DIPHTHERIA. Suppuration of the tonsils, or around the pharynx, is not a common event in diphtheria. We met with it in one case in 1859. In the case of Mr. Gardner, related by Dr. Minot, in the *Boston Medical and Surgical Journal* for March 7th, the sudden discharge of a faucial abscess was the cause of death, by suffocation. The amount of exudation upon the mucous membrane was very moderate, and the case was not attended with much prostration.

Another point in the case—of melancholy interest—is the fact that the physician who attended Mr. Gardner, (Dr. Horace W. Adams, of Boston,) took diphtheria from him, and died one week after him. When Mr. Gardner fell apparently dead, "Dr. Adams immediately laid him upon the floor, and tried to resuscitate him by clearing the throat with his fingers, and by endeavoring to inflate the lungs by *blowing into his mouth*. A large quantity of matter was removed from the patient's throat and mouth." Dr. Adams began to complain of some soreness of the throat in two days after, and died, suddenly, suffocated, after an illness of five days, during the greater part of which he was troubled very much with an incessant profuse muco-purulent discharge from his mouth, and latterly with threatening suffocation. At his autopsy, false membrane was found covering the tonsils and posterior fauces, larynx, trachea and primary bronchi.

Late journals have also brought the intelligence of the death of Mr. Gendron, of Château du Loire, France, from diphtheria contracted from a patient under his care. While performing the operation of tracheotomy, he received in his face and mouth some of the false membrane, which was suddenly coughed through the incision in the trachea. This is the same gentleman alluded to in the January number of the *JOURNAL*, (p. 18,) as having contracted diphtheria from a shower of diphtheritic exudations received on his lips from a patient who coughed while he was examining him. Vigorous and early treatment saved him then, to fall a victim to professional duty twenty years later.

We may refer in this connection to the case of the much respected Dr. Frick, of Baltimore, who died last year in a similar manner.

In case of receiving any of the diphtheric exudation upon any mucous membrane, we should regard an immediate thorough washing with some chlorinated solution, such as Labarraque's, or of diluted hydrochloric acid, as the means most likely to avert the risk of contagion.

SCURVY. Dr. Ward, of the Seaman's Hospital, "Dreadnought," London, affirms that [by judicious government regulations] scurvy is extinguished in the British navy, with the exception of the cases which have occurred in the various late Polar expeditions. "The experience of the Dreadnought, however, goes to show an increase of late years in the mercantile marine." He refers to the constitution of scorbutic blood, as consisting in deficiency of the red corpuscles, and superabundance of fibrin. The red corpuscles are reduced from 115 to 48 parts in 1000, and the fibrin is increased to three times its normal quantity. The increase of the fibrin explains the effusions of it that take place underneath the skin, around the muscles, in the tendinous sheaths, upon the surfaces of bones, and form the characteristic contraction of the joints, especially of the lower extremities. The diminution of the red corpuscles may explain the hæmorrhagic tendency in scorbutic cases, as well as a liability to syncope.

"The tendency to fatal syncope is one of the most striking features of scurvy, and is not limited to the more serious cases. Scorbutic patients, not particularly reduced in strength or emaciated, will, on any sudden over-exertion, especially on suddenly assuming the erect posture, sometimes fall down in a swoon, from which they do not recover. A man in the hospital, in the prime of life, who appeared to be in very fair condition as regards flesh and power, died in this manner. He had been chatting in a loud and cheerful tone of voice to those near him, on the evening after his arrival, when suddenly on getting out of bed to go to the night stool, he fell down in a state of syncope, and before the medical officer could get to him, he was dead." (*Lancet*.)

In connection with the reports from England in regard to scurvy, it is worth while to know that in the army of the United States—of an average strength of less than 14,000 men—two thousand eight hundred and three cases of scurvy were reported as occurring during the five years, ending December 31, 1859, a state of things clearly referable as may be ascertained by examination of the official documents of the War Department to the neglect of a provision of proper food for the army at many of the stations.

APOPLECTIFORM CONGESTION OF THE BRAIN. Mr. Trousseau has

made a communication to the French Academy of Medicine, to establish his opinion that, in by far the greater number of cases, what is looked upon as apoplectiform congestion of the brain, and treated by blood-letting, is a symptom of an epileptic nature. The following is the substance of it:

A man, with or without premonitory symptoms, is suddenly struck down by apoplexy; and for a quarter of an hour, an hour, or more, he remains dull, his mind is confused, and his gait uncertain; on the morrow he is perfectly restored.

The patient is said to have had apoplectic congestion of the brain.

Another individual is suddenly seized, while walking, with giddiness, his vision becomes indistinct, his speech embarrassed, a few unintelligible words are uttered; he staggers, and occasionally falls, but immediately rises again. The attack has lasted but a few seconds, slight headache remains, and sometimes a transitory obfuscation of the intellect, but in three or four minutes he recovers himself entirely.

The patient is again said to have had a mild attack of cerebral congestion.

Since my attention has been solicited to these phenomena, I have inquired carefully, whenever consulted by a person thus attacked, whether from time to time sudden, transitory fits of giddiness had been observed in the day; whether such paroxysms of vertigo had not more frequently occurred at night; whether the fits had not been ushered in by any spasmodic movement, and almost invariably, when witnesses had been present at the time, I was enabled to ascertain the undoubted existence of convulsive action. When the symptoms occurred at night, during sleep, I was informed that the urine had escaped involuntarily, or that for some days the tongue had been painful; that the face, forehead and neck had been covered with small specks of ecchymosis analogous to flea-bites, also that the accidents returned at short intervals, without leaving any permanent traces. In short, when inquired into with a sincere desire to arrive at the truth, the cases resolved themselves into genuine epilepsy.*

Not a month elapses without my being consulted by individuals suspected of apoplexy, or mild cerebral congestion, who are merely suffering from epilepsy.

The vertigo of epilepsy frequently asserts its presence by symptoms which are invariably attributed to congestion of the brain, and towards which physicians, specially engaged in the study of insanity, have long since invited the attention of the profession. After the attack, a delirium of a few minutes' duration is occasionally noticed; this aberration of mind may even be protracted.

I must acknowledge that one convulsive form may be readily mistaken for congestion of the brain. It happens sometimes, very seldom, however, that, in the incipient stage of

an epileptic paroxysm, the tonic period, during which the muscles of the chest are in a state of absolute rigidity, lasts two or three minutes, instead of enduring but fifteen or thirty seconds as usual, and that death is induced by asphyxia, during the fit as in tetanus, in the same manner as in animals poisoned by strychnia. As in this instance, no clonic convulsions have been present, (the spasms best known to unprofessional witnesses), as during the entire duration of the fit, the countenance has been turgid, and the blood-vessels of the neck distended and knotty, as, moreover, enormous congestion of a passive kind has really been present, analogous to that produced by effort, active congestion is supposed to have taken place, when after all the patient has expired in a genuine eclamptic or epileptic fit.

Mr. Trousseau concludes with saying:—I would not be understood absolutely to deny the existence of cerebral congestion. I fully admit the possibility of hyperemia or congestion of the brain, which it would be folly to doubt; but I assert that what has been denominated *apoplectiform congestion of the brain* is in most instances, an epileptic manifestation, and sometimes a mere fainting fit; and I say, moreover, that frequently mere vertigo, due to a bad condition of the stomach, or to disease of the ear, has been improperly referred to congestion of the encephalon.

If the positions I have assumed are correct, you will doubtless concede that the counter-irritants and antiphlogistic measures continually adopted for the relief of the alleged congestions should be more sparingly used, and that other indications of treatment must be sought for, more in harmony with a correct appreciation of the various conditions hitherto too frequently confounded under one appellation. (*Championnière's Journal.*)

VERATRUM VIRIDE.—We extract the following timely and judicious remarks from an elaborate article on *Veratrum Viride*, contributed by Dr. Charles A. Lee to the last three numbers of the *Journal of Materia Medica*.

"The therapeutical properties of the American Hellebore have of late attracted considerable attention, and while it has been most extravagantly extolled by some, its merits have been, in a corresponding degree, underrated by others.

"We have seen that the veratrum is a powerfully acrid sedative, very efficient in reducing the frequency of the pulse, and its force also. Were it true, as alleged by its advocates, that it lessens the frequency of the cardiac contractions, without diminishing their strength, and that by simply allaying the irritability of the heart, it would be, indeed, a most invaluable remedy. But this is not the case. Its power over the circulation resides in its sedative influence, and not in its narcotic virtue, just like antimony; and where the frequency of the pulse is lessened, we find the tonicity of the heart diminished in a corresponding ratio.

Moreover, its liability to excite vomiting, in doses necessary to control the pulse to any great extent, is so great, as to constitute a very serious objection to its use in many of the diseases for which it is recommended. A careful examination of the cases thus far reported, in which it has been used, leads me to doubt, very much, whether it really exerts any true curative power over disease. In lessening the force and frequency of the pulse, it modifies one symptom only, but it seems to have little influence over the pathological condition, or the disease itself. The disease may exist, or progress, although its manifestations be smothered. Arterial excitement is not as dangerous as vascular torpor. The most dangerous and profound congestions are attended with a slow, weak pulse, very similar to the pulse produced by full doses of hellebore. None but the homœopath will maintain, that in extinguishing a symptom, we extinguish the disease. A frequent pulse, it is true, is often a mark of danger; but the danger arises from the disease, which occasions the sign, not the sign itself.

I know it is believed, by many, that veratrum controls or extinguishes the disease, but facts do not sustain this opinion. No series of well conducted experiments with this remedy, in the various affections for which it is lauded as a specific, have yet been made; and in the published cases, other powerful medicines have generally been associated with it. No one seems to have been willing to rely on it alone.

“Where nervous excitement is attended with increased vascular action, or local determination, and is a consequence of vascular disorder, then, what are called antiphlogistics are indicated, it may be aided by anodynes, or narcotics, according as there may be pain, spasm, want of sleep, etc., present. But it is mere quackery to resort to veratrum as the grand panacea in such cases. We admit the propriety and necessity of allaying excessive vascular action, in all cases, but we insist on doing it in the safest and best manner; and in order to do this, we must carefully examine its causes, manifestations, state of the secretions and excretions, the indications of vital power, the conditions of the circulating fluids, as far as they are indicated by the pulse, color of the surface, of the lips and tongue, and extremities; we must decide as to the diathesis of the malady—whether sthenic or asthenic, dynamic or adynamic,—and then we are prepared to form an opinion as to the indications and means of cure. If the diathesis be sthenic, characterized by symptoms, as strong, full pulse, heat of skin, etc., indicating salutary reaction, neither impairment of organic, nervous, or vital power, nor contamination of the fluids, antiphlogistic and febrifuge measures are to be employed, possibly blood-letting, but especially substances which promote the secretions and excretions, by which the circulation becomes equalized, and vascular action reduced. But on the contrary, if the diathesis be asthenic, the vital powers depressed or exhausted,

the blood poisoned by infectious or injurious elements or materials which excite the vascular system, then we are to support promptly, the vital energies by suitable aliment and appropriate stimulants; promote the secreting and depurating functions by proper eliminants; and correct, or counteract the morbid states of the blood, by such agents (as chlorate of potash, ammonia, camphor, alcohol, quinine, iron, etc.) as, when absorbed, have been found, by experience, best calculated to accomplish these purposes.

These remarks find abundant illustrations in all the eruptive fevers, as *small pox, measles, scarlet fever, pyogenic fever, typhoid and typhus fever, diphtheria, etc.* The advocates for the use of veratrum in many of these affections, would seem to overlook the plainest and best established principles of pathology, and reduce the science of medicine to a purely empirical art. Its administration, in most of these diseases, would be in opposition to all sound pathology, and would effectually extinguish all the recuperative powers.

It is unnecessary to notice the objections to the use of veratrum in *scarlet fever, dysentery, erysipelas*, and other zymotic affections of impaired vital force, for which it is recommended, as they are the same already adduced against its employment in *typhoid fever*. In all diseases of this class it is strongly contra-indicated. In *puerperal convulsions*, for which its specific properties are extolled, we have a far more successful agent in chloroform; and, in *dysmenorrhea*, the well-known and far safer combination of camphor and hyoscyamus, is preferable. In *child-bed fever*, often at least, a pyogenic affection, we should be quite unwilling to exchange opium for it; and in every form of *mania*, if anodynes or hypnotics are indicated, we should vastly prefer morphia, henbane, chloroform, or cannabis. Perhaps there is no class of diseases for which the American Hellebore has been so extensively used by New England practitioners, as the *arthritic inflammations*, particularly *gout and rheumatism*.

"The true nature of gout and rheumatism is now much better understood than it was when Dr. Tully lectured, or Dr. Osgood wrote his essay. They are both, as is well known, blood diseases, and the external affection is only the outward manifestation of constitutional disease. Copland has called our attention to the fact, that the suppression of the paroxysm, by means which leave the constitutional disorders untouched, or which increase them, is injurious; and that a large dose of an acro-narcotic, like colchicum, veratrum, or aconite, has often the effect of suppressing the morbid sensibility, and with it, the irritative vascular action of the seizure; thus freeing the patient from the suffering, for a time. But such treatment leaves the internal disorders, of which the external is merely a part, and an index, in the same state as before, or rather increases them, inasmuch as it tends to weaken

organic nervous power, to irritate the digestive mucous surface, and to impair the functions of excretion. The consequence is, either a more frequent return of the precursory symptoms of the attack, or the supervention of some serious visceral disease. The indications, in gout and rheumatism, evidently are, to remove the internal conditions and derangements, in which they originate. These derangements are, weakened organic nervous power; a torpid state of the functions of the liver, with accumulations of bile in the liver and biliary passages; congestion of this organ: fecal accumulations in the large bowels; vascular erethism, or inflammatory irritation of the surface, and especially the superabundance of excrementitious matters, as lithic acid, in the circulation."

RIGIDITY OF OS UTERI. Dr. Charles D. Arnott refers to cases which commonly pass under the above designation—cases chiefly of primipara, where there have been regular and forcible pains for hours, but a digital examination reveals the following conditions:—"Vaginal passage dry and tight, os uteri barely within reach, high up posteriorly, a mere slit like a button hole, scarcely admitting the finger's point; the foetal head down low anteriorly, pushing before it a large segment of uterine tissue, and under the influence of each pain apparently making ineffectual efforts to force its way through this evident source of obstruction." The water has probably been discharged and labor may continue for days. Dr. Arnott objects to blood letting and depressants, as well as to anodynes; but prefers to use manual interference. He puts his finger into the os uteri, and draws forward and dilates it at every pain. Under this process, it begins to yield some, improvement begins forthwith, and all difficulty is soon overcome. (*Lancet*.)

We fully agree with the above description of an occasional condition, and endorse the treatment proposed. There are, however, many cases of rigidity of the os uteri, without any of the displacement here described; and which we are in the habit of treating with an enema of a solution of one or two grains of tartarized antimony, which in most instances promptly relaxes the os uteri, and often without producing any nausea.

ERGOT. There are two principles in this drug: one the narcotic or toxic, which resides in the oil, and the other the uterine motor-stimulant, which remains after the oil has been extracted by ether.

In 1831, Dr. Charles Hooker, of New Haven, experimenting with the oil, gave it to a medical student—half dr. at two o'clock, and 1 dr. at four o'clock. Intense narcotic symptoms were produced, that did not entirely disappear for several days. The pulse fell from 85 to 65, and then to 36, and the respiration from 19 to

8 per minute. On using the same oil in labor, no influence was observable on the uterine contractions, but on the child that of a powerful narcotic. He used it in six cases of labor, employing from 20 to 75 drops, and though the pains were not increased, yet "the children for a considerable time after birth had a livid appearance, and respired with much difficulty and irregularity, with the ordinary symptoms of ergotism." In the experiments of Bonjean and Wright with the oil on animals, a similar train of narcotic symptoms followed, ending frequently in tonic or clonic spasms and death.

Hooker then used the residue that remained after the extraction of the oil, and found its alcoholic power unimpaired. We conclude, therefore, that the uterine motor-stimulant power exists in the watery preparations, and the poisonous principle in the oil.

In 1850, the Academy of Medicine, at Paris, after investigation of the influence of ergot on the life of the child, came to the conclusion that this was endangered both by compression and narcotism. In 1853, the Academy adopted the conclusions of Mr. Depaul: "that except in miscarriage, in certain labors attended with hæmorrhage, and occasionally at the conclusion of natural labor, parturient women would be gainers by the complete disuse of ergot.

In 175 cases reported by Busch, where ergot was given, 17 children were born dead, and 8 asphyxiated; of 80, by Chatto, 10 were dead; of 48, by Hardy, 34 were dead; of 64 by R. U. West, 9 were dead.

There can scarcely be a doubt that one hour's ergot-pain would be fatal to one half the infants. They are literally smothered, since they are effectually shut out from the only source whence their blood could be supplied with oxygen. I should not deem it safe to administer the ergot in any case, unless I was quite certain that the child would be born in four or five vigorous pains. If, after giving it, the birth should be delayed more than half an hour, it would be more prudent to conclude the labor with forceps. (*Prof. E. N. Chapman.*)

EDITORIAL.

MASSACHUSETTS BOARD OF HEALTH.

"In consideration of these facts and reasons, your memorialists respectfully ask your honorable bodies to establish a Board of Health and of Vital Statistics, which shall look after the vital and sanitary interests of this Commonwealth, superintend the execution of the law for the registration of births, marriages and deaths, and prepare the annual report; have the charge of the decennial census under the direction of the legislature; have a visitorial power over all the hospitals and the public medical charitable institutions, where the insane, the sick, the defective in body or mind are kept or supported by the State; and assume such other responsibilities, and perform such other duties in connection with life, sickness and mortality of the people, as you, in your wisdom, may determine."

This is the closing paragraph of a memorial presented to the Legislature by a committee of the Boston Sanitary Association on the 15th of February last. The "facts and reasons" are clearly set forth in the memorial by the chairman of the committee, Dr. Edward Jarvis of Dorchester; and furnish the strongest possible argument for the establishment of a State Board of Health, authorized to oversee the very important interests alluded to in the extract from the memorial above quoted.

We desire to fulfil our duty to the community by coming forward as the advocates of what we must consider a public measure of the very highest importance; and we cannot do so in any other way so well as by spreading before our readers the substance of the "facts and reasons" which Dr. Jarvis' long experience and devotion to sanitary science have enabled him to present so thoroughly in the memorial.

The State is under the obligation of looking after the means of improving health and prolonging life in its members, as decidedly as it is bound to advance what are usually considered to be the more immediate pecuniary interests of the citizens. "Whatever interest the state or nation may have in its capital, or the manifold capitals of its people, it has the same and a greater interest in its physical, mental and moral force, or the manifold personal and vital forces of its members that produce all its wealth and constitute all its power."

On inquiry whether the body politic now enjoys all the vital and productive force that the natural and organic law offers it the means of possessing and using, the committee find that,—estima-

ting every child as worth to the State fifty dollars multiplied by as many years as he has lived, and the whole amount being a total loss in case of his death before a productive age (fifteen years),—in the year 1859 that the loss, by the death of 8,953 under fifteen years of age, amounted to \$1,108,550, which they had cost their families or the community for their maintenance, which must be charged to the general income or capital of the State. “Here,” says Dr. Jarvis, “is the direct interest of the State to save the lives of these children and youth, to finish these vital machines which had been begun and thus far built, to put them into working order, into active and effective operation, and to receive back in return, the cost of their creation and growth, and also derive a profit from their future labors.”

Another important drawback from the effective power of the people, is the amount of sickness that falls upon the productive age (between 15 and 70.) In the year 1855, by estimate, nearly seven million days were lost by the sickness of persons in the productive period of life; and the profits of labor were lessened \$7,000,000. The estimate of that year would not vary materially from other years. The *avoidable* pecuniary loss to the community by sickness, and by the premature death of persons in the productive age is very great every year.

The political aspects of health are displayed by the committee in a very strong light. “The safety of public administration, of town and of State, is in the proportion of men who are over forty—who have passed the years of impetuosity and impatience—whose zeal is tempered with caution, and whose reason is paramount over their feelings and passions.

“In some communities where youth predominates, law has less force, order is less maintained, and governmental organization has less authority. The British reports present remarkable and painful examples of this in Limerick, and in several of the manufacturing towns, where life is so short, and such a small part of the people survive early manhood, that there are not enough of the mature and the staid, of the calm and the disciplined, to control or repress the excitability, the occasional passionate disorder, and the riotous indiscretions and frivolities of the youthful majority. Therefore strikes, mobs, resistance to law, and disturbance of the ordinary purposes and plans of business, take place there more than elsewhere.”

And lastly, the moral aspects are considered. “Thus in every point of view, it is manifest that the health and longevity of the people are the great interests of the body politic.”

One would suppose that these might be considered self-evident truths. There is no question that the citizens of Massachusetts, as a body politic, would readily adopt the measures necessary to secure the advantages of superior health and longevity, if they could only be persuaded that their health is capable of material im-

provement and their lives of extension. The government has shown no backwardness, as Dr. Jarvis reminds us in his memorial, in creating a Board of Education and a Board of Agriculture; the Executive was prompt in assembling the Legislature to take the requisite steps to arrest a destructive epidemic among cattle, and the General Court appropriated money freely to the object. Since it is possible to improve the varieties of fruit, grain and roots, and the breeds of cattle, horses, sheep and swine, by State supervision, the government can and should be made auxiliary to the far more important measures of the expansion of human life and the diminution of sickness. As an illustration of what can be done for a community by those in power, Dr. Jarvis has the following from Mr. Chadwick. "A long building in Glasgow was inhabited by 500 persons, one family in each room. The rooms were crowded, and the air foul; fever was rarely absent, and there were sometimes seven cases a day, and in November and December, 1831, there were fifty-seven cases in the building. The building was contiguous to a large factory, in which was a very tall chimney. The owners of the dwellings also owned the factory. They fixed a simple tin tube two inches in diameter into the chimney of each room, and these tubes led into one general tube, the extremity of which was inserted into the chimney of the factory furnace. By the perpetual draught thus produced each room was continually ventilated. During the ensuing eight years fever was scarcely known in that place." This instance is but one of many opportunities for an improvement in the sanitary condition of the people. All their habits of life, everything relating to food, clothing, exercise, daily occupation, and physical and mental habits, comes properly within the cognizance of a Sanitary Board.

"In this matter it is not expected that there shall be any direct interference with the people, by the government or any of its officers. They are not expected to go forth and heal diseases, nor is it asked that fever shall be prohibited by law, or that death shall be arrested by the arm of power. The state did not forbid weeds to grow in the fields, or the farmer to raise poor crops; nor did it prohibit ignorance or require more geographical and mathematical knowledge among the children and youth. Yet the state did spread and create good influences, from which these should come, and those influences have accomplished their great purpose, and are still moving onward in their work of improvement."

Mr. Herbert Spencer, an English philosopher, in a recent admirable work on "Education, Intellectual, Moral and Physical," has one chapter on physical education, from which we must quote a few vivid illustrations of the common ignorance of the paramount importance of sanitary provisions for human beings to the measures so readily adopted for agricultural and kindred interests. Mr. Spencer's remarks are directed to individuals; but in these

matters in which human welfare is so deeply concerned, the same obligations which rest upon individuals, lie upon the State with as much greater weight as their opportunity of organizing great reformatory projects exceeds that of private persons.

"Equally at the Squire's table," says Mr. Spencer, "after the withdrawal of the ladies, at the farmers' market-ordinary, and at the village ale-house, the topic which, after the political question of the day, excites perhaps the most general interest, is the management of animals. Nor is it only among the rural population that the regulations of the kennel, the stable, the cow-shed, and the sheep-pen, are favorite subjects. In towns, too, the numerous artisans who keep dogs, the young men who are rich enough to now and then indulge their sporting tendencies, and their more staid seniors who talk over agricultural progress, form, when added together, a large portion of the inhabitants.

"But, during after-dinner conversations, or at other times of like intercourse, who hears anything said about the rearing of children? When the country gentleman has paid his daily visit to the stable, and personally inspected the condition and treatment of his horses; when he has glanced at his minor live stock, and given directions about them; how often does he go up to the nursery and examine into its dietary, its hours, its ventilation? The fattening properties of oil-cake, the relative values of hay and chopped straw, the dangers of unlimited clover, are points on which every landlord, farmer, and peasant has some knowledge; but what proportion of them know much about the qualities of the food they give their children, and its fitness to the constitutional needs of growing boys and girls?

"Consider the fact from any but the conventional point of view, and it will seem strange that while the raising of first-rate bullocks is an occupation on which men of education willingly bestow much time, inquiry and thought, the bringing up of fine human beings is an occupation tacitly voted unworthy of their attention. Mammals who have been taught little but languages, music, and accomplishments, aided by nurses full of antiquated prejudices, are held competent regulators of the food, clothing and exercise of children. Meanwhile the fathers read books and periodicals, attend agricultural meetings, try experiments, and engage in discussions, all with the view of discovering how to fatten prize pigs! Infinite pains will be taken to produce a racer that shall win the Derby—none to produce a modern athlete. . . .

"As remarks a suggestive writer, the first requisite to success in life is 'to be a good animal;' and to be a nation of good animals is the first condition to material prosperity. . . . Already under the keen competition of modern life, the application required of almost every one is such as few can bear without more or less injury. Already thousands break down under the high pressure they are subject to. If this pressure continues to

increase, as it seems likely to do, it will try severely all but the soundest constitutions. Hence it is becoming of especial importance that the training of children should be so carried on, as not only to fit them mentally for the struggle before them, but also to make them physically fit to bear its excessive wear and tear." And so on through many interesting pages. In his closing paragraphs, Mr. Spencer says, "Perhaps nothing will so much hasten the time when body and mind will both be adequately cared for, as a diffusion of the belief that the preservation of health is a *duty*. Few seem conscious that there is such a thing as physical morality. Men's habitual acts and words imply the idea that they are at liberty to treat their bodies as they please. Disorders entailed by disobedience to nature's dictates, they regard simply as grievances—not as the effects of a conduct more or less flagitious."

Mr. Spencer's views on the great subject of education, in all that relates to sanitary reform, have their full echo in the memorials before us. It is well that the people of this commonwealth should give to the subject their most serious consideration, in the hope of securing at the next annual session of the legislature the creation of such a Board as is asked for in the memorial of the Boston Sanitary Association. This Board, says the memorial, "will endeavor to persuade the world to regard their vital force as their most precious gift by which all others are to be weighed, and to which everything must be subordinated, their most reliable capital which is not to be expended for any meaner advantage nor put to hazard for any ordinary purpose. So that, as the best citizens, the best members of the body politic, when they consider any plan of business or pleasure, now count the cost in money, to see if they can afford the expense, they will then count the cost in life, and see whether and how much this too must suffer in the undertaking."

E. J. FOUNTAIN, M. D., OF DAVENPORT, IOWA.

We were shocked to read, in the *American Medical Times*, the sad announcement of the death of this most earnest physician, and the cause of its occurrence. He has been widely known during the last year or two through his excellent contributions to several medical journals; and those who had the advantage of his neighborhood and personal acquaintance mourn his loss as of a near friend and one whose memory will hold an honorable place in public estimation.

His life and soul were in his profession, in which he was rapidly gaining a well-deserved influence. His zeal in the cultivation of medical science was untiring; interested in new researches, he

suffered no means of getting at the truths he was investigating to fail, and enlisted the coöperation of the whole profession by publishing his results in the widely circulating journals.

At the last annual meeting of the American Medical Association he read to the Section of Practical Medicine an essay on the use of Chlorate of Potash in Tubercular Phthisis, a remedy which he had come to regard with the greatest interest. His earnestness during the last year in advocating its employment under various circumstances has been very remarkable. He anticipated so almost marvelous benefits from its newly-found qualities, that every communication from him referring to it has been deeply tinged with a fine characteristic enthusiasm. To nullify all objections that were brought against the use of the chlorate of potash on the ground of its injurious effects, he last year dissolved half an ounce of it and swallowed it at a draught, to convince the profession of its safety. It appears that doubters still remained, notwithstanding the repeated publication of the results of his first experiment; for "on Friday, March 22d., Dr. Fountain took, at a single dose, an ounce of chlorate of potash, with a view of verifying his belief in the perfect innocuousness of the medicine when administered in large doses. The most violent results ensued—the main and immediate effect being upon the kidneys. Inflammation of the stomach and intestines followed. The action of the drug seemed to expend itself immediately on the kidneys, a copious diuresis having occurred through the 22d until ten o'clock, P. M. From five A. M., of the 23d until the time of his death—March 29th—there was no secretion whatever from the kidneys." His age was 32 years.

It was Dr. Fountain's particular request that his case, with the report of a post-mortem examination should be published to the profession—which it is the purpose of his late partner, Dr. Adler, to comply with, in the columns of the *American Medical Times*. "Whatever may be the results of future experience in the employment of chlorate of potash, this much is certain, that it will ever hereafter be associated with the name and fame of this intrepid physician." We cannot avoid the reflection that so valuable a life as his is a heavy price to pay for the item of knowledge his death has afforded.

MEDICAL NEWS AND MISCELLANY.

MEDICAL SOCIETIES OF NEW YORK CITY. From a History of the Medical Societies of New York City, read before the N. Y. Medical Union in December, 1860, it appears that the existing medical societies, in the order of their formation, are the Kappa Lambda Society (1823), a secret organization, of which there were branches throughout the United States. The mother chapter of this society was organized at Lexington, Kentucky. Next, the New York Medical and Surgical Society (1834), which has been social in its character. The Harveian Circle (1843); a club having for its object social intercourse and the promotion of the professional advancement of its members. The New York Pathological Society (1844), numbering at present 180 members, and publishing monthly reports in the city medical journals. The Academy of Medicine (1847), which has published its transactions at irregular intervals. The Society for Medical Inquiry (1848), of limited membership, and social character. New York Medical Association (1849). The Medico-Chirurgical College of New York (1859.) The New York Medical Union (1853).

PHYSICIANS IN THE UNITED STATES. According to the *Nashville Medical Journal*, the number of physicians in the United States amounts to 40,481. In Massachusetts there is one physician to 605 inhabitants; in New York, one to 611; in Pennsylvania, one to 561; in North Carolina, one to 802; in Ohio, one to 465; in Maine, one to 884; and in California, one to 860. (*American Medical Monthly*.)

PROSECUTION OF SOMNAMBULISTS IN FRANCE. Monarchies are often more favorable to the support of science than republics, as in the following item from *Championnière's Journal*. The Medical Association of the Marne recently brought an action before the police courts, against two alleged somnambulists of Fismes, who had previously been condemned as unlicensed practitioners of medicine, with results analogous to those which followed a prosecution of the same kind instituted by the Association of Provins.

The woman Gervais was condemned to thirty dollars damages, and the woman Billot to ten dollars.

These indemnities, being devoted to charitable purposes, will have a doubly beneficial effect—increasing the fund intended for the relief of the destitute on the one hand, and on the other, it is to be hoped conveying a wholesome warning to the swindlers of various denominations, who prey upon the poor and ignorant.

FIRST PRACTICAL USE OF ETHER IN SURGERY. Dr. Charles T. Jackson, well known as one of the claimants of the discovery of the anæsthetic proper-

ties of ether, has lately addressed a letter to the Boston Medical and Surgical Journal, of which the following is the principal part: At the request of the Hon. Mr. Dawson, U. S. Senator from Georgia, on March 8, 1854, I called upon Dr. C. W. Long, of Athens, in Georgia, while on my way to the Dahlonega gold mines, and examined Dr. Long's evidence, on which his claims to the first practical operations with Ether in surgery were founded, and wrote, as requested, to Mr. Dawson, all I learned on the subject. From the documents shown me by Dr. Long, it appears that he employed sulphuric ether as an anæsthetic agent.

1st. March 30, 1842, when he extirpated a small glandular tumor from the neck of James M. Venable, a boy in Jefferson, Georgia, now dead.

2d. July 3, 1842, in the amputation of the toe of a negro boy belonging to Mrs. Hemphill, of Jackson, Ga.

3d. September 9, 1843, in the extirpation of a tumor from the head of Mary Vincent, of Jackson, Ga.

4th. January 8, 1845, in the amputation of a finger of a negro boy belonging to Ralph Bailey, of Jackson, Ga.

A NEW ANÆSTHETIC. John Wilmshurst, Surgeon of an English merchantman, reports to the London *Lancet*, that he has administered the vapor of the oil of turpentine with the effect of producing complete anæsthesia in several cases. His first case was one of violent supra-orbital neuralgia. In the absence of chloroform, "I immediately applied some turpentine, sprinkled on a handkerchief, to the nostrils, and was surprised to find it not merely soothe and allay the pain, but, after a few inhalations, produce a gentle sleep and state of anæsthesia, from which she awoke without any headache or other unpleasant symptoms, and quite free from pain.

"Its effect seems to be to allay nervous irritation, spasm and pain, without deranging the action of the heart, and to produce a calm, anæsthetic sleep."

PALMER'S ARTIFICIAL LEG. We are glad to learn that the patent for this celebrated invention, a recommendation of which has been signed by the Surgeons of the Massachusetts General Hospital, has been recently renewed. (*Boston Medical and Surgical Journal*.)

We recollect an incident that testifies to the excellence of Palmer's Leg. One morning some years ago, Mr. Palmer, who wears one of these artificial legs himself, was in the apothecaries' shop of the Hospital, exhibiting himself and showing his paces to several medical gentlemen of the Hospital staff. After walking about the room for some time before us, he found we were divided in opinion as to which was the true and which the false limb. So taking a few turns more, he submitted it to the deliberate decision of the six gentlemen present; whereupon three pronounced for the right leg and three for the left.

TANNIN AN ANTIDOTE TO STRYCHNIA. Dr. Kursak concludes, from numerous experiments on dogs and rabbits, that the prompt exhibition of tannin is

the safest and most efficient remedy for poisoning by strychnia. The quantity of the antidote should be proportionate to the amount of the poison which has been taken, and even somewhat exceed the latter, inasmuch as the contents of the stomach are liable to absorb a portion of the neutralizing agent. For every grain of strychnia, about two drachms of gall-nuts, or more in case of vomiting, should be prescribed. Green tea also appears to possess a certain degree of efficacy, but only when the quantity of poison is very small. Oak-bark, acorns, etc., are convenient and active substitutes for pure tannin. But vegetable acids should be prohibited during the treatment, as they promote the dissolution of the precipitants thrown down under the influence of the tannic acid—the same exception applies equally to fermented liquids; and muscular efforts which induce convulsive action, in persons poisoned with strychnia, should likewise be carefully avoided. (*Union Medicale.*)

SULPHATE OF ATROPIA. Mr. Bergounhioux, desirous of testing the stupifying effects of the solanæ upon the last nervous ramifications, applied a solution of atropia directly upon the denuded dental pulp. When this pulp is painful, without however being in a state of acute inflammation, the contact of one or two drops of a solution containing one hundredth part of its weight of sulphate of atropia, instantly deadens the pain, so completely as to allow of the use of the rasp and excavators. As a happy illustration of the anæsthetic power of this solution, Mr. Bergounhioux adduces the insertion of the pivot of artificial teeth into the living roots, without any necessity for the destruction of the dental nerve and blood-vessels by means of cauterization. (*Championniere's Journal.*)

SCHÉELE'S GREEN. In a small town in France, several tons of arsenite of copper are sold every year for making green paint—this color being preferred for bed rooms. (*Lancet.*)

LUNG FROM A MILLSTONE MAKER. Dr. Peacock exhibited a lung to the Pathological Society of London, and some very fine microscopical preparations and drawings illustrating the morbid condition resulting to the lung from the occupation in question. A large quantity of silicious material was found in the substance of the lung itself. (*Lancet.*)

LONG INCUBATION OF VACCINATION. One year and a half ago, I vaccinated a grand-child of mine, six months old. It did not work, and the three incisions rapidly healed up. She has never been vaccinated since; but about five months ago, all three places became sore, and she had the true vaccine pock. Her father vaccinated several children from her, and it worked well in every case. I saw the child last week, and found the well-marked characteristic cicatrices. (*Medical and Surgical Reporter.*)

JEFFERSON MEDICAL COLLEGE. At a meeting of the Board of Trustees of this institution, held on Monday last, Dr. William V. Keating was elected

Professor of Obstetrics, in place of Professor Chas. D. Meigs, resigned. (*Med. and Surg. Reporter*, April 13th.)

MASSACHUSETTS MEDICAL SOCIETY. The next annual meeting of the Massachusetts Medical Society will be held in Boston, on Wednesday May 29th.

EXCHANGES RECEIVED (APRIL). Boston Medical and Surgical Journal. American Medical Times. American Medical Monthly. Medical and Surgical Reporter. Cincinnati Lancet and Observer. Nashville Journal of Medicine and Surgery. Journal of Materia Medica. Maryland and Virginia Medical Journal. Cincinnati Medical and Surgical News. Chicago Medical Journal. Chicago Medical Examiner. American Journal of Medical Science.

BOOKS AND PAMPHLETS RECEIVED. Seventeenth, Eighteenth and Nineteen Registration Reports of Massachusetts (1857-8 and 9). Memorial of the Boston Sanitary Association to the Legislature, praying for the establishment of a State Board of Health. Reports of the State Hospitals, Almshouses, and various other Public Institutions, for 1860. (All of these, with other interesting and valuable public documents have been received from Josiah Curtis, M. D., Secretary of the Boston Sanitary Association.) Memorial of the Boston Sanitary Association to the Legislature, on Small Pox and Vaccination. (From two of the Committee who prepared it—Drs. Robert Ware and James C. White.) Report of the Trustees of the Museum of Comparative Zoology at Cambridge. 1861. (From Prof. Agassiz.) Catalogue of the Officers and Students of the University of Michigan. Catalogue of the Trustees, Officers, and Students of the University of Pennsylvania. Catalogue of Bowdoin College.

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WM. HENRY THAYER, M. D., AND R. CRESSON STILES, M. D.

"Ore trahit quodcumque potest atque addit acervo."

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No. 6.

PROCEEDINGS OF SOCIETIES.

MASSACHUSETTS.

BERKSHIRE DISTRICT MEDICAL SOCIETY.

The Berkshire District Medical Society met at North Adams, on Wednesday, April 24th.

The question of the employment of heat in the treatment of Asphyxia was discussed, in accordance with a vote of the Society at its previous meeting. *Dr. Stiles* introduced the subject by calling attention to the point at issue. All agreed as it regards the propriety of artificial respiration, although the methods of performing it differed; all agreed on the propriety of using sudden alternatives of heat and cold to arouse the respiratory movements. But cases occurred in which it was necessary to keep up artificial respiration and efforts at restoration for a considerable time, as in the newly born, and in narcotic poisoning; during this time the temperature of the body was liable to a great depression if it were exposed to a cold medium. Was this depression of temperature a source of danger or of safety?

In 1776, John Hunter gave his views on the subject, in a paper entitled "Proposals for the Recovery of Persons apparently Drowned," in which he advocated the employment of heat. After giving directions for the employment of artificial respiration, he says, "While this business is going on, an assistant should prepare bed clothes, carefully brought to a proper degree of heat. I consider heat as congenial with the living principle—increasing

the necessity of action it increases action; cold, on the other hand, lessens the necessity, and of course the action is diminished. To a due proportion of heat, therefore, the living principle owes its vigor. From observations and experiments, it appears to be a law of nature in animal bodies, that the degree of external heat should be proportioned to the quantity of life; when it is weakened, this proportion requires great accuracy of adjustment, while greater powers of life allow a greater latitude." So little did he fear to excite the circulation, that he directed frictions and stimulating applications to be made to the skin, and warm and stimulating injections to be thrown into the stomach and rectum. Yet he had not overlooked the present question, and with full knowledge that the "degree of external heat should be proportional to the quantity of life," recommends the application of warm covering. He did not question the necessity of warm applications; he simply cautions against too high a temperature.

The motives by which many have been led to pursue a different course, have been fairly presented by Professor Thayer, in the March number of the *Berkshire Medical Journal*, and it is not necessary that I should now speak of them.

Quite recently this question has been revived, by the presentation of a paper to the Royal Medical and Chirurgical Society, by Dr. Christian, and its discussion by Drs. Sharpey, Libson, Spenser Wells, and others. Dr. Christian gives in his paper an experience of twelve years as medical officer of the Royal Humane Society, resulting in the abandonment of the method of Marshall Hall, in the adoption of Sylvester's method and the use of the warm bath. He advocates the following treatment for asphyxia by immersion in water: "Wipe the mouth and nostrils directly the body is taken from the water. Use Dr. Sylvester's method; at the same time, let the body be taken as quickly as possible to the Receiving House, and place it in the bath up to the neck. Raise the body in twenty seconds from the water, and dash cold water against the chest. Pass ammonia under the nose. Use again Dr. Sylvester's method, and the inflating apparatus, if it fail. Remove the body from the bath, and rub the surface with dry hot towels, perseveringly continuing the other treatment." On the subject of the warm bath, which has excited so much discussion as a remedy, he remarked, that it must be understood that it is used as an immediate and powerful excitant; and it had so frequently happened (twice while he was actually present) that a person brought in as asphyxiated, who, to the bystanders was apparently quite dead, immediately on being placed in the bath, gave the sob or gasp which is the precursor of respiration, that it might be boldly stated to be a most valuable adjunct to treatment, and, properly managed, in no way pernicious. He concluded by citing a letter from Sir Benjamin Brodie to the Royal Humane Society, confirming the preceding conclusions.

Dr. Sharpey had used the following language: "There was an outcry against the warm bath, founded on mere speculation. The Royal Humane Society's officers had found it very efficacious. Edwards and Dr. Brown Séquard made their experiments on puppies and kittens; and their experiments were not, he believed, to be fairly compared with the use of the warm bath in cases of suspended animation."

Dr. Stiles argued that as there was such opposing testimony from such high authority, and there was reason to suppose that all the knowledge we now possessed had been fairly brought to bear upon the question, further knowledge should be sought by means of accurate and extended experimentation.

Dr. Smith, of Pittsfield, would use the warm bath, and only raise the body from it for the purposes of artificial respiration or the momentary influence of cold; was not prepared to state his grounds for this treatment further than that early instruction, experience and a conviction that it was the proper course, combined to decide him in its favor.

Dr. Pickett had been in the habit of placing the child in a warm bath and inflating the lungs.

Dr. Collins stated that he had been informed, that in the Russian hospitals, children, born in the sixth month, were often saved by a contrivance, which he described, for keeping up the heat of the body; thought this had a bearing upon the question; respiration, as well as the other functions, suffered by allowing the body to cool.

Dr. Stiles stated that it had been shown by experiments on warm-blooded animals, that either under starvation or confinement in a very cold medium, they would die when the temperature of the body sank to 77° Fahrenheit.

Dr. Duncan remarked he was not aware that asphyxia was to be the subject for discussion at this meeting, and having come in but a moment since, he had not the pleasure of listening to the remarks of gentlemen present; and furthermore, that he was not prepared from recent reading to discuss this subject in its latest aspects, and should therefore confine himself to one or two points, not knowing but that they have already been considered. By common consent we use the term "asphyxia" to denote the manner of death when atmospheric air is prevented from entering the lungs; and in the first place it might be pertinent to ask why the exclusion of air should produce consequences so immediately fatal to life. The answer to this inquiry is furnished by its pathology—the rapid appropriation of the oxygen of the blood by the tissues, deprives it of its vital stimulus; secondarily, the oxydizing process gives rise to two products, carbonic acid and water, the excess of which must be eliminated or death soon follows, beginning at the lungs from obstructed circulation through the pulmonary vessels. This is a brief and imperfect statement.

but sufficient to enable us to establish this general principle, that that temperature is best which least depresses the vital force and at the same time checks the oxydation of the tissues. In one respect we gain an insight into the nature of asphyxia in the hybernation of animals in the northern regions in winter, and in that opposite condition of the lower forms of animal life in the tropics during the long and dry season. It is true in the first instance that oxygen is not prevented from entering the lungs, nor carbonic acid from escaping; but the animal heat is lessened, the circulation retarded, and the oxydation of the tissues reduced to its minimum; and it is mainly owing to this latter cause that the animal is enabled to survive for months without food, while a fraction of this deprivation during warm weather would prove fatal. In the tropics, as the dry season approaches, the myriad forms of animal life which inhabit the pools and marshes, find their way into the mud, and literally dry up with the earth, which is often fissured and checked with solar heat, and is for months apparently as hard as a brick; but when the wet season returns, a few days suffices to restore them to their former activity. In this instance, as in the former, life is sustained by retarding the oxydation of the tissues. It follows, therefore, that an animal might survive for a considerable time without food or air, if we can effect this.

However smoothly a theory runs, when we come to apply it to practice we find friction: while the application of cold would protect the tissues against oxydation and the consequent accumulation of carbonic acid in the blood, it would tend to depress the vital force and become in itself a source of danger. We cannot afford to lose sight of the important relation of the nervous to the respiratory system, and the only cold which I have used in my limited experience has been for the purpose of rousing it to activity. It does not follow from the experiments of the French physiologists, that the temperature which best retards asphyxia, is the best to restore suspended animation; on the contrary, the preponderance of testimony seems to be in favor of its intermittent application, and that too with a view to its stimulating or exciting effect upon the nervous system.

Dr. Lawrence reported a case in which he had laid a newly-born child in flannels by the stove, supposing it to be dead, and was startled, when, after a considerable time, it gave evidence of being alive.

Dr. H. H. Childs introduced the question of the therapeutical value of Chlorate of Potash, and called for expressions of opinion on the subject.

Dr. Collins had attended a post mortem examination of a young

man who had lost his life by gastritis, caused by half ounce doses of the drug administered by his physician.

Dr. Smith had used it in doses of twenty grains three times a day; had employed it in phthisis, in scrofulous ophthalmia and strumous affections generally; had obtained most excellent remedial effects from it, but no toxic influence.

Dr. Duncan had used the chlorate of potash for fourteen years, in the angina of scarlet fever, and other affections of the mouth and throat; was convinced that it had no value in tubercular consumption; thought the theory that it introduced oxygen into the blood false; the beneficial effects of cod liver oil and alcoholic liquors partly due to the fact that they prevent the oxydation and waste of the tissues.

Dr. Stiles paid a tribute to the memory of *Dr. Fountain*; regretted that so large a portion of the profession should place reliance upon drugs in the treatment of tubercular consumption; no drug would permit the necessary conditions of health to be withdrawn with impunity.

Dr. Miller reported for *Dr. Hawkes* a case of recto-vaginal fistula in an infant of twelve weeks, in which *Dr. H.* had prevented the passage of faecal matter into the vagina by dilatation of the anus with bougies, and inserting pledgets of lint into the vagina, and awaited a gradual closure of the unnatural opening.

Dr. Pickett reported several interesting cases of angina, supposed diphtheric, in which desquamation occurred as in scarlet fever, although no eruption had been observed; rheumatic symptoms were prominent in all. In one case in which there had been no sore throat, and no eruption, but simply rheumatic symptoms, abundant desquamation had taken place.

Dr. Smith had frequently found his cases of diphtheria attended by rheumatic attacks.

Dr. Lawrence reported a case of ascites, with decided enlargement of the liver, in a child eleven years old, in which rapid recovery had followed the application of an ointment of iodide of mercury over the hepatic region, and the internal use of acetate of potash.

The society dined with *Dr. G. C. Lawrence*. Many prominent men from the northern part of the county were present at the festivity, and excellent addresses were given.

It was unanimously voted that the members of the Berkshire Medical Society would give their services gratuitously to the families of those who had left home in response to the call of the government.

VERMONT AND NEW HAMPSHIRE.

CONNECTICUT RIVER VALLEY MEDICAL ASSOCIATION.

The Association held their annual meeting at Bellows Falls, Vermont, on Wednesday, May 1st,—Professor Phelps, President, in the chair.

A report was presented by Dr. Webber, as chairman of a committee appointed at the last meeting of the association, of a plan to be used by members, for annual reports to the association of the epidemic diseases which occur under their notice. The report was accepted, and the Treasurer was instructed to procure the printing of three hundred copies of the set of questions and blanks accompanying the report, before the next meeting of the association.

The annual address* was delivered by the President—upon the general pathology of inflammation, and especially its sub-divisions, with particular reference to the true pathology of diphtheritic inflammation, and an endeavor to dissipate the confusion that exists regarding it among different writers.

At 1 o'clock, the association adjourned for dinner.

At 2 o'clock, the regular order of business was resumed, and they proceeded to the election of officers for the ensuing year.

The following gentlemen were chosen :

WM. HENRY THAYER, of Keene, *President*.
H. H. PALMER, of Ludlow, *Vice President*.
L. E. SIMONS, of Saxton's River, *Recording Secretary*.
G. F. GALE, of Brattleboro', *Corresponding Secretary*.
S. NICHOLS, of Bellows Falls, *Treasurer*.

It was voted to hold the July meeting in Keene, N. H., and the October meeting in Proctorsville, Vermont.

It was voted to offer the proceedings of the association to the Berkshire Medical Journal for publication.

Dr. Webber read an interesting paper on

The Pathology of Diphtheria.

He began with an account of the literature of the disease, commencing with Bretonneau. He referred to the confusion made by Bretonneau between this disease and membranous croup, and to the confounding of various throat affections, diphtheria,

*To be reported in the next number of the Journal.

cynanche maligna and croup, under the name of diphtheria—an error exposed in the British Medico-Chirurgical Review in 1838. He referred also to an article in the American Journal of the Medical Sciences in 1839, by Professor Geddings of the University of South Carolina, on the subject of the same confusion in the pathology and diagnosis of the several diseases. He reminded the association that notwithstanding these and similar efforts at exposing the errors of Bretonneau in regard to the nature of diphtheria, the same mistake had been repeated by many writers. He then proceeded to give the results of his own experience for many years in the various inflammatory affections of the throat, and concluded with the following summary :

From a careful survey like this of the results of reading and observation, I think the following inferences may be drawn :

That the formation of a *diphthera*, or false membrane, of greater or less extent, is not peculiar to any disease of the throat, but an affection incidental to inflammation of the mucous membrane generally, wherever situated ; and not only to the mucous membrane properly so called, but to the mucous surface of the cutis, where the cuticle has been abraded ; to the mucous-like surfaces of the granulations of ulcers ; and to the skin in the immediate vicinity of mucous surfaces.

That it is a complication or accompaniment of a disease, rather than a disease itself.

That the tendency to this formation varies with the exciting cause of the inflammation, the atmospheric constitution of the time and place of the disease, and the peculiar constitutional state of the patient.

That from the position and functions of the throat, it is peculiarly exposed to the immediate poisonous action of local emanations or miasms, and of atmospheric distemperature, and thus to become the seat of inflammatory disease either of a simple or specific character, and hence to suffer from this membranous formation under the circumstances, whatever they may be, by which the disease has a tendency to produce it.

That if the inflammation of the throat has any peculiar exanthematous eruption, it should be considered a specific disease, however little or much of a membranous formation should follow on the eruption ; and should be referred to that peculiar exanthem, even though the usual accompanying eruption on the skin should not appear.

That, should there appear to be any simple inflammation of the mucous membrane of the throat, like that of tonsilitis, but with a great and unusual disposition to the formation of a membranous deposit, spreading it widely over the whole surface, such an inflammation might well receive as a specific name some term denoting such a tendency, such for instance as the term *diphtheritica* or *membranacea* ; but as the latter had already been applied by

previous writers, the former was uncalled for, and it was only making confusion to apply a new term to distinguish an old disease.

That croup is a disease of a peculiar locality and distinct symptoms, and ought not to be included under any such description, where the inflammation began elsewhere and reached that locality by extension.

That whether *cynanche maligna* can be included properly under such a term as *angina membranacea*, must depend upon the circumstance of their being, or not being, in it an eruption on the inflamed surface of the fauces. If there be such, it must be referred to that peculiar eruptive disease as a name. If there be not such an eruption, then it may properly enough be classed under the above term. For the determination of this point I do not find sufficient authority; even Professor Geddings, who classes it as a variety of his *angina pseudo-membranacea*, and who saw a great deal of what he considered to be the diphtherite of Bretonneau, upon which he bestowed this former name, mentions, that the formation of the membranous deposit was sometimes preceded or accompanied by small vessels of a whitish or purple color. Future observations, made extensively and with care, must be required to settle this point.

All the cases I have seen of the epidemic that was beginning to prevail when the foregoing remarks were written, and which has prevailed since, were of the eruptive sore throat before mentioned, mingled even in the same family with cases of regular scarlatina; and in cases where the patients had previously gone through scarlatina, under particularly unfavorable external circumstances, assumed a malignant form answering exquisitely to the descriptions of *cynanche maligna*. The greater part of the remainder disappeared readily under treatment, without any membranous formation whatever on the inflamed surface. In a few there was perhaps a single patch as large at the most as a half dime, and in two or three others there were small crusts of much less size, of what to the eye appeared to be aphthæ or *oidium albicans*. Even in the malignant cases there was comparatively little of membranous formation, and no termination was like that of croup proper.

Looking back to Bretonneau's original description of the disease on which he bestowed the name of "diphtherite," I cannot consider these cases as belonging to it. I have been accustomed in years past, when the cases were not malignant, though often severe, to speak of them as eruptive or scarlatinous sore throat; of the malignant ones I for many years saw none; and when of late they reappeared, I called them by the old name of *cynanche maligna*, throat distemper, or putrid sore throat, and still looked upon them as best coming under such an appellation. Though when much membranous formation prevails, I have no objection

to call them pseudo-membranaceous, or diphtheritical, or diphtherial, but cannot recognize Diphtheria as a distinct disease.

Dr. Thayer then read the following paper on

Nutritive Enemata.

For some years past, it has been my practice to administer nutriment by the rectum in cases where it could not be swallowed or retained by the stomach. Thus, in strictures of the œsophagus, the dysphagia attendant upon acute laryngitis, in gastritis, and the irritable stomach of other acute affections, or in the case of infants who absolutely refuse to swallow food, I have found it eminently successful to relinquish all efforts at feeding by the mouth, and supply a suitable amount of nutritious liquids by enema.

I am aware that it is an expedient occasionally resorted to in the case of patients who are sinking and unable to take a sufficiency of nourishment by the mouth, and certainly in cases of impassable stricture of the œsophagus. But it is my impression that it is generally regarded as a last resort, and that in many cases in which it might be employed with great advantage it is not used, either from a supposition that it is troublesome, or unnecessary.

I consider it, on the contrary, an easy method, unattended with any ill consequences, and especially applicable to a variety of cases in which from one or another cause gastric digestion is performed with difficulty or suffering. There are many cases in which it is very important to secure a temporary respite for the stomach, which can be accomplished by conveying all nutriment by the rectum, if even for a few days only. And there are other cases where the act of deglutition is impossible, or so very difficult that the patient would die of starvation, were we not to resort to the expedient of nutritious injections.

It is by no means uncommon with me to direct an enema of beef-juice to be administered two or three times a day to young children who are much debilitated by acute disease, and unwilling, as they often are, to swallow a sufficient amount of nourishment. The result often is that they are not only sustained for the time, but a natural appetite is restored earlier than it otherwise would have been. I have such a case under treatment at the present time—a boy of four years of age, convalescent from whooping cough, has exhibited great debility, and was attacked a week ago with a herpetic inflammation of the lips, which became so much swollen and so thickly encrusted with large scabs that he could take only liquid food, and took little of that willingly. He was ordered egg-nog, in addition to other liquids—but continued pallid and feeble. I then directed whiskey, *pro re natâ*, and an enema twice a day of two ounces of strong broth with a drachm

of whiskey. To this was afterward added the yolk of one egg, with a few drops of laudanum. The injections were retained, and improvement began at once.

The following is a specimen of cases which are exclusively dependent on enemata to support life. In March last, I delivered a lady of a boy who weighed seven pounds, but was very puny. He refused the breast entirely, and also the breast of another person who was procured. He was therefore fed with cream and water, of which he would be persuaded to take only a very inadequate quantity, and in two or three days fell into a state of dangerous prostration. An enema of half an ounce of beef-juice was ordered, and continued with regularity every four hours, day and night, with a few drops of brandy. After two or three injections, he showed a marked amendment, and his appetite increased, so that he took larger and continually increasing meals of cream and water, and the injections were after several days given less frequently. When about ten days old, he was attacked with convulsions, and his milk was at once omitted, and the whole nourishment given by the rectum, with brandy. The convulsions, which were moderate, recurred five or six times within two days, and then ceased. The treatment had been the warm bath and repeated doses of extract of Indian hemp. Nourishment by the mouth was again gradually resorted to, and the enemata were after a while discontinued. The child, now seven weeks old, is finally gaining and performing its functions satisfactorily; although its evacuations were for several weeks frequent and imperfectly digested, and for more than a week it had moderate stomatitis. Various details of symptoms and treatment have been omitted—the present object being merely to give an instance of the value of enemata in a case where life could not be sustained in any other way.

It is unnecessary to give many cases or full details. In one case, of a boy two years old, severely ill with scarlet fever, followed by great enlargement of the tonsils and submaxillary glands, with extensive suppuration in the neck, rendering deglutition very difficult, life was sustained by injections of broth, brandy and quinine, for three weeks, with final recovery.

In a case of membranous croup in June, 1859, in a boy of three, food and drink almost always produced coughing; and after the second day the child was supported by enemata of beef-juice every four hours, which were continued until convalescence was established.

I had an indistinct recollection of seeing a woman sick with acute laryngitis in the Massachusetts General Hospital in 1843, who was supported for some time by the rectum, when deglutition became impossible. Dr. Shaw, the Resident Physician of the Hospital, has given me the particulars of the case from the Hospital Records. The following are the chief points: "April 9.

Has swallowed nothing, except once after violent attempts and with great distress. *Enema of arrow-root* Oss., to be repeated four times in twenty-four hours. If not retained, add Tr. opii gtts. xx. April 13.—Enemata have all been retained, without opium, and is refreshed by them. April 16.—Able to swallow without much difficulty, and enemata were omitted." She thus received Oji. of arrow-root daily by injection for seven days, and no other sustenance, and it was retained without the aid of opium. Dr. Shaw writes me, "We have in a few instances recently resorted to nutritive enemata for a few days at a time, but no patient has been supported in this way for any length of time."

Obstinate vomiting, from whatever cause, may render it desirable, or even indispensable, to omit all food by the mouth, and quite as important to give it by the rectum.

A gentleman began to be ill on Tuesday, and on Thursday sent for me, when I found commencing erysipelas of the face. His stomach was irritable, and his ingesta were frequently vomited. He was still allowed liquid food cautiously, but the vomiting grew worse, and through Saturday night was very frequent and attended with great restlessness and some delirium. On Sunday morning, swallowing was forbidden, and I began to administer beef-juce by enema, at first only two ounces every six hours. The vomiting did not return. The sulphate of quinia, which he had taken freely from the first, was continued, and he was allowed champagne for drink. The favorable effect of the enemata was very apparent—not only was there a complete cessation of the vomiting, but the restlessness abated, and he got for the first time some quiet sleep, undisturbed by delirium. The injections were increased to four ounces, and given about four times in twenty-four hours. A slight sensation of hunger which he had, was always relieved almost immediately after taking the injection. The erysipelas extended over the whole face, half way down the neck, and over the greater part of the scalp. For four days, he swallowed nothing but champagne and water. On the fifth day, he began to eat carefully, and the enemata were discontinued. Recovery was very rapid, after convalescence began.

On the 6th of August, I was called in consultation to see a woman about thirty years old, who had had nursing sore mouth for two months, with loss of appetite, and so much difficulty in eating, that her diet had gradually fallen far below what was necessary to support herself and her child. On the morning when I was called, she had been seized with an almost fatal syncope, from which active restoratives and external heat were gradually arousing her; but her skin remained cold and she talked incoherently. On account of the stomatitis and the pain it gave her to take food, we put her upon a regular course of nutritious injections, of pure beef-juce, while brandy was administered by the mouth without stint. Within twenty-four hours her reason returned, and her skin had regained its natural warmth.

We gave her daily what food she could take, with the continued use of stimulants: and the beef-juice injections were given every six hours for nearly four weeks. For a time she rallied and seemed to make improvement, but after several weeks there was a perceptible falling off, and finally diarrhœa set in, and the injections were discontinued. She died on the 2d of September, four weeks from the time of her attack of syncope. Her child was of course weaned at that time.

I have another case to relate, which illustrates, perhaps more strikingly than any of the preceding, the advantage of nourishing enemata as a measure of relief from suffering, and a temporary support in cases necessarily fatal. On the 1st of November, 1859, during the lecture term at Pittsfield, Prof. Timothy Childs asked me to see an elderly man who was apparently the subject of cancer of the stomach. A tumor was distinctly palpable under the umbilicus, and for months he had suffered with eructations of food immediately after eating, and sometimes apparently before it had reached the stomach. He spit up a great deal of mucus, and for several weeks had suffered much severe pain in the epigastrium, and had been altogether very miserable. He was emaciated and sallow. I find in my note book no fuller record of his condition at that time.

I advised that he should not swallow any food whatever, and should be sustained by enemata. The proposition met Dr. Childs' approbation, and we directed three injections of beef-juice in twenty-four hours. He began with four ounces at each injection, and in a day or two increased it to six ounces, and afterwards to eight. This quantity, making a pint and a half per day of beef-juice, was continued for three or four weeks. Nothing but water, or sometimes whiskey and water, was swallowed. Drinking was often followed by eructations, and the whiskey was omitted, and half an ounce of rum was added to each enema.

The effect of the plan adopted was very gratifying. The epigastric pain was completely relieved. Emaciation and debility apparently went on no faster than they would have done in such a case under any circumstances, and life was made comparatively comfortable. His death took place about six weeks after this treatment commenced. During most of the time, he was dressed, sat up more or less, and rode out frequently. His injections were retained well. In the first week, being protected with laudanum, he had no dejection whatever. As he continued to be liable to eructations after swallowing any liquid, even water, Prof. Seymour suggested the administration of nitrate of silver in solution; and he took half a grain dissolved in half an ounce of water three times a day, with considerable abatement of the eructations. His autopsy, made by Dr. Childs after I left Pittsfield, revealed cancer of the stomach, near the cardiac orifice.

A few words are necessary in regard to the material of the injections, the amount and the frequency.

We have probably no more concentrated liquid nutriment than beef-juce, prepared after Liebig's formula ; and this I have commonly used in preference. A pound of lean beef, of average quality, yields about three ounces of it.

The size and frequency must depend upon the age and condition of the patient. An adult can retain a large injection by force of will, and after the first one or two, has seldom any inclination to pass them off. With a child, especially an infant, it is different : there is no will to act, and the sphincter is comparatively weak—so that the enema must be of moderate bulk. For a young infant not more than an ounce—and I have commonly used only half an ounce. More than this is liable to be discharged, unless guarded by a larger amount of opium than is safe. Adults can retain eight ounces of liquid, and after the rectum has been educated to it by a few days practice, perhaps more. I have never administered more than eight ounces at a time, a quantity which has been generally found sufficient in the case of persons confined to bed with acute disease. It has been given three or four times in twenty-four hours, according to circumstances. Infants, retaining so small a quantity as they do, require it oftener ; and I repeat it with them six times a day, or every four hours.

It is necessary to add to each injection a proper amount of the tincture of opium, to overcome the irritability of the rectum. With adults, we may be able to discontinue the opium after a few injections ; and even with infants the quantity may be lessened, as the rectum becomes gradually accustomed to the injection.

Dr. James Currie, of Liverpool, published an interesting case of a gentleman ill with scirrhus stricture of the cesophagus, in 1795, who was supported for five weeks, after swallowing became impossible, by injections. Dr. Currie administered larger injections than I have done, but added to them so large an amount of laudanum that it is not at all strange they were always retained. "Every morning at eight o'clock, he had a clyster, consisting of eight ounces of strong broth, made chiefly of membranous parts of beef, into which were rubbed two yolks of an egg, and to which were added 40 drops of laudanum. This was repeated at 3 P. M., and again at 9 P. M. ; but in the evening, instead of 40, 120 drops of laudanum were added, to compensate the want of an anodyne draught, to which he had been accustomed at the hour of rest." "In a few days the retention of the rectum improved, and enabled us to enlarge the clysters to 10 oz. of broth, and three yolks of egg each ; to which, after two weeks, 8 oz. of white wine were added ; the laudanum being increased to 60 drops for each of the clysters in the day, and to 150, 180, 200, and 250 drops for the evening clyster. A day's nutriment was finally 30 oz. of broth, 24 oz. of wine, 9 yolks of eggs, and 380 drops of laudanum." Without occupying more time with the details of this interesting case, I would say that all the symptoms of inanition passed off,

and the patient became comfortable, though steadily emaciating, having little thirst, and his hunger being always relieved by the enema. He had a stool generally three or four times a week, formed and homogeneous, of lighter color than natural. In the fifth week, he began to fall off, was somewhat delirious, did not retain the injections, and died in a few days.

In regard to the amount of laudanum, I usually find eight or ten drops sufficient for six ounces of beef-juice. And if stimulants or any other medicines are required, I have met with no difficulty in giving them with the beef-juice, or alternately with it.

In connection with this subject, I would say, that future experience may find other substances than beef-juice, even more serviceable for nutritious enemata; but my own experience has been with this article almost exclusively, and in its use on all suitable occasions for several years, I have found it almost always answer the purpose. Oily substances in emulsion may be used, if required—as the yolk of egg was used by Currie. Cod-liver oil has been used in this manner in large quantities by Dr. Bennett of Edinburgh, and by a correspondent of his, Dr. Brist of Aberdeen, as stated in his work on Pulmonary Tuberculosis. Whether oily substances would be emulsified in the rectum and sigmoid flexure, so as to enable them to be absorbed into the circulation, I am unable to say, but when given in emulsion they appear to be readily taken up by the vessels. As to all the substances employed for enemata, it is obvious that they should be those which are most easily assimilated.

The Connecticut River Valley Medical Association is two or three years old. Any regular physician residing in one of the counties of Windsor and Windham, Vermont, and Sullivan and Cheshire, New Hampshire—which include the territory lying in the basin of the Connecticut River from White River down to the Massachusetts line—is eligible to membership of the association. It numbers at present sixty-five. Three meetings are held annually. The first one—on the first Wednesday in May—is always held at Bellows Falls, which is a central point, and very accessible by railroad. The second meeting, on the first Wednesday in July—and the third meeting, on the fourth Wednesday in October—are held in other places within the society's limits, which are selected at the annual meeting. The plan is generally to have one of them towards the northern and the other towards the southern extremity of the district. Last year the two meetings were held at Brattleboro' and Claremont. This year they are to be at Keene and Proctorsville. The object of the society is mutual professional improvement and good fellowship.

ORIGINAL COMMUNICATIONS.

ART XV.—*Surgical Cases.* By E. K. SANBORN, M. D., Professor of Surgery in Castleton Medical College.

The following cases, occurring in the private practice of the writer within the last few months, without possessing any claim to novelty in character or treatment, present some features of practical interest to the professional reader :

CASE 1. *Gun-shot wound of Arm—Laceration of brachial vessels and hæmorrhage—Extraordinary efforts to induce re-action—Amputation at shoulder joint, thirty-six hours after accident—Tetanic symptoms fourth day from operation—Death from tetanus on the seventh day.*

The subject of the above injury was a healthy young man of twenty, a clerk by profession. While on a gunning expedition, he, by carelessness, received the charge of his gun (loaded with small shot) through the arm, in the neighborhood of the axilla. The muzzle of the piece being in contact with the limb in front, the charge passed upward and outward, through the posterior boundary of the axillary cavity. The left humerus was extensively shattered, and the axillary vessels were carried away to the extent of two inches or more. The bleeding was severe, and (as appearances indicated) after running a few yards, the patient fell exhausted and senseless, and was thus found in the course of half an hour. He was removed to the nearest farm-house, where I saw him in six hours from the time of the accident.

The patient then exhibited the usual signs of exhaustion by hæmorrhage, being insensible, pulseless, with surface bleached and cold, the arms tossing wildly, with gasping effort to breathe.

There was no bleeding at this time, the arm having been tightly ligatured above the wound as soon as he was found in the field.

The usual means for resuscitation had been actively employed, under the direction of an intelligent physician, without as yet making the pulse perceptible at the wrist.

After examination, the opinion was given that reaction was doubtful, but that if it took place, amputation at the shoulder-joint was the only resort. As the patient seemed to be suffering wholly from loss of blood, systematic efforts were at once adopted to endeavor to supply the want.

A quantity of strong beef tea was at once prepared, and two ounces ordered to be gently thrown up the rectum every twenty minutes. The same quantity of fluid, being, variously, water, milk

punch, and broth, was given by the mouth, at the same intervals of time. These seemed to be retained and absorbed, and at the end of twenty-four hours it was found that more than a gallon of meat broth had been taken up by the rectum, without a single defecation. As much more had been taken into the stomach, without rejection. The result was quite manifest in the general appearance and condition of the patient. The countenance began to lose its pinched and shrivelled look, and the lips to show a little color. The patient also manifested a degree of consciousness, and an appreciation of his situation.

As yet the pulse was scarcely perceptible at the wrist. The treatment was continued.

In six hours more (the patient still absorbing fluid as before) the pulse was observed to be steadily rising, and something like reaction beginning to appear. Believing the critical time to be approaching, I made preparations for the operation and retired, with directions to be called when reaction should be fully established.

This took place at about three o'clock in the morning, or thirty-six hours from commencement of treatment.

The patient was etherized, and quietly removed to the operating table in an adjoining room, where the limb (now gangrenous in its whole length) was quickly severed at the point, by anterior and posterior flaps. No blood was lost, the subclavian being effectually controlled by an assistant. A few shot dropped from the joint as it was laid open, but the tissues looked in good condition.

Fourth day from Amputation.—Patient in good condition apparently—wound dressed—everything looking well—union taking place between the wire sutures at the extremities of the wound.

Food and stimulus well borne, and the patient in good spirits and confident of recovery.

Fifth day.—Last evening patient began to complain of a "jerk-ing" in the anterior flap, which occasioned considerable pain. He also coughed somewhat, and ejected clots of blood, of dark color. Applied compresses to the wound and anodyne fomentations, with an opiate internally.

To-day, symptoms all worse. The painful contractions of the pectoral muscle continue to such a degree as to tear out sutures and re-open the wound. Rigidity of muscles of the side of the neck also noticed; also difficulty of swallowing.

Sixth day.—Patient worse in all respects. General tetanic convulsions. At the request of the patient, he was kept under the influence of ether, with the exception of brief intervals, until his death, which took place early on the seventh day from the operation.

Although no post mortem examination was made in the above case, it was quite evident that the tetanic trouble was brought on by shot which had penetrated the thorax, and were lodged in and about the large nervous trunks in the cervical region.

The extent to which nutritious fluids were absorbed into the system from the rectum in this case, is of great practical interest. A similar course of treatment was adopted not long since by the writer, in a case of prolonged and dangerous sea-sickness and vomiting, complicated with pregnancy, during an Atlantic passage in one of the British steamers.

The lady in question was discovered to be in a state of collapse, from inanition and exhaustion, on the seventh day out from port. In all that time vomiting had been incessant, and nothing whatever had been retained on the stomach. At the time I saw her she was nearly pulseless, with the blue sunken features and cold clammy surface, that is seen in the last stages of cholera.

The smallest quantity of ice or water, was instantly rejected by the stomach, mingled with bloody mucus. I suggested small injections of iced beef-tea, as strong as could be made, to be administered every twenty minutes during the night, at the same time strictly prohibiting the giving of anything by the mouth for six hours. Vomiting ceased very quickly after the commencement of the injection. At the end of ten hours she was allowed to take some broth into the stomach, which she retained, and thenceforth her recovery was uninterrupted. It is proper to state that the surgeon of the steamer was disabled by illness from his duties, and the apparent neglect of the patient, as well as my connection with the case, was accidental.

ART. XVI.—*Progressive Exudative Inflammation of the Fauces and Air-Passages, in three separate attacks.* By EDWARD E. PHELPS, M. D., Professor of Theory and Practice of Medicine in Dartmouth College.

Having lately seen an interesting case of exudative inflammation of the croupose form, in which the inflammation passed from the fauces quite into the smaller bronchi, it seemed to me that it might prove interesting to others at this time, when so much attention is turned towards the subject of inflammations accompanied by the passing out of plastic matter upon and within the substance of mucous membranes.

Before describing the case, however, allow me to make a single pathological remark: that I recognize the distinctions of Rokitsansky and other noted German pathologists, of exudative inflammations of mucous membranes as either croupose or diphtheritic, and the two differing very widely from each other in their causes, in their pathological anatomy, in their type and also in their results—while at the same time they have some things in common,

principally in the exudation being of a plastic character, and being found in the form of membranous expansions upon the surface of the mucous membrane.

The case to which I alluded occurred in a well developed and usually healthy boy of about eight years of age, who, without any known exposure to cold, was attacked somewhat suddenly, on the evening of the 6th of February, with febrile symptoms of moderate severity. The heat of skin and hardness and frequency of the pulse showed the sthenic character of the febrile movement. Soreness and redness of throat followed, with somewhat painful deglutition.

On the morning of the 7th, there was swelling of the fauces generally, the tonsils and uvula partaking in the enlargement. Before night some difficulty of breathing showed itself, with thin white patches upon the tonsil and back part of the pharynx. The dyspnoea seemed more like the ordinary slight dyspnoea of fever, than that from any contraction of the laryngeal aperture; in the upper part of the trachea there was no unnatural sound of respiration, nor was there any great motion of the parts, or constrained position of the head and neck, like what is seen in croup.

At this period I was led to diagnosticate the case as one of croupose pharyngitis. There was not the asthenic type of diphtheritic pharyngitis, and the general surface of the membrane was of a more brilliant red; besides, at those points where the patches of false membrane were partly detached, the surface of the mucous membrane was smooth.

The subsequent history showed that my diagnosis was correct, for nothing of ulceration ever appeared on the site of the membraniform patches. Under treatment of diaphoretics, as moderate doses of *Asclepias tuberosa* combined with Kerme's mineral, the use of a mild laxative and the vapor bath to the neck, he improved, and was, to all appearances, convalescent; when, on the tenth of February, nearly four days from the commencement of illness, there came on suddenly, in the night, dyspnoea, with a slight cough. Ipecac in emetic doses, with larger doses of *Asclepias*, and emollient cataplasm to the anterior neck, gave speedy relief, and again he continued to improve until the eighth day from the attack, when he again became feverish. The cough returned and had now the croupy sound; there was tracheal respiration, some spasm of the laryngeal muscles, a rapid and tense but rather small pulse, a flushed, anxious countenance, and he lay with the head thrown back. Indeed, there were all the symptoms usually seen in a moderately severe case of exudative laryngo-tracheitis, or pseudo-membranous croup.

Inspection of the throat internally showed only small, loose specks of false membrane that had been raised from the larynx and trachea; there was little, if any, unnatural redness or swelling of the membrane visible; a day or two later a large amount of false

membrane was discharged from the larynx and trachea. It was now evident that the croupy inflammation, that in the first attack had been confined to the pharynx, had now seated itself upon the mucous membrane of the larynx and upper part of the trachea.

The treatment here consisted of some diaphoretic agents, but in the first day of this new attack the turpeth mineral (yellow sub-sulphate of mercury) was given in about three grain doses, producing emesis quite speedily, and giving unusual relief to the respiration.

From the eighth to the twelfth day of the disease, this agent was used more or less every day, and was on the twelfth omitted, the patient at this time being free from any febrile symptoms, and the respiration being normal.

Once a day (generally at evening) the turpeth mineral was given in larger doses, so as to vomit.

On the thirteenth day from the first attack, the febrile symptom again recurred, together with a paroxysmal cough and scanty expectoration. There was somewhat hurried respiration, with dyspnoea; on the fourteenth day a sibilant râle was heard on both sides of the median line, to some distance from it; this was most distinct in the space between the third and sixth ribs. No dulness was perceptible upon percussion at any period. The febrile excitement was most intense on the fourteenth day from the first attack, but was at no time so great as on the second and third days. It gradually diminished, and was entirely gone about the eighteenth day. The expectoration contained casts of the smaller bronchi, about the size of large knitting needles, and at times was streaked with blood; and in a few instances the coloring matter was diffused uniformly through the quantity thrown off at one time.

It was evident that in this last attack the same croupy inflammation had followed down the air passages quite into the small bronchi.

In this form, too, I found the turpeth mineral had a great control over the most unpleasant symptoms, and under its use, with some mild expectorants and diaphoretics, he recovered so as to be discharged from treatment on the twentieth or twenty-first day from the first attack.

The case was to me an unusual one, and instructive, in showing the decided difference in type from the other exudative inflammation of the mucous membrane, viz., the diphtheritic, in which I have always seen an asthenic type of a decidedly low grade. But the control that the turpeth mineral had over both the febrile reaction and the dyspnoea, was most remarkable. Although I have frequently used the same article in pseudo-membranous croup with good effect, I had never seen its action so decidedly beneficial as here. It seems to me also especially worthy of notice that these three separate attacks should have followed each other in this regular progression downwards.

ART. XVII.—*Spontaneous Inversion of the Uterus after Labor.*
By SAMUEL WEBBER, M. D., Charlestown, N. H.

In some of the medical periodicals of late there has been some discussion of the subject of inversion of the uterus, and it seems to have been a question whether such an accident could take place spontaneously. Some have thought it possible, while others have denied its possibility, and imputed its occurrence after delivery to some culpable mal-practice on the part of the attendant physician. Perhaps the following case, which occurred to me two or three years since, may throw some light on the subject.

I was called hastily one evening to a young woman said to be prematurely in labor. On arriving at the spot, I found the pains very violent, and hastening to the bed-side, found the fœtus just pressing open the vulva. A pain or two completed the delivery, and a subsequent one brought down the placenta. Having removed this, I passed my finger into the vagina, to ascertain if every thing was in its proper condition. I found it to be so, and was about to withdraw my hand, when a violent after-pain came on, causing the uterus to press low down into the vagina so as to come in contact with my finger, and at the same time I felt the mouth of it dilate to the size of a dollar, and something present itself, as if trying to pass out. Pressing my finger up to examine this, I found it a rounded, firm, fleshy and somewhat elastic body, with a flocculent surface; and sliding my finger upon it, into the mouth of the uterus, it appeared to pass into an opening closed at the farther end, (a cul-de-sac) extending around the presenting body. I immediately recognized this as the fundus uteri, partially inverted by its own action, and pressing down as if to become wholly so. The pain was long, and the pressure continuous for a considerable part of a minute, so that I had time, after the instantaneous examination, to place the end of my finger about on the centre of the projecting tumor, and by a strong upward pressure to counteract its descent. Shortly the pain relaxed, the tumor withdrew, the womb retired higher up, and its orifice partially closed.

I did not dare, however, to change my position or withdraw my hand, and apparently it was well that I did not, as in two or three minutes the pain returned even more forcibly than at first; the orifice not only dilated but its lips seemed to curl up and retract, and the inner surface of them to be thrown into wrinkles by the downward pressure of the inverted fundus, which was so great that the strongest pressure I could make with my finger was hardly able to withstand it, and I was in constant fear lest some

restless movement of my patient should displace it from its central position, and making it slide along the side of the tumor, suffer the inversion to become complete. Fortunately, no such movement took place, though these pains were repeated several times. They then became less forcing, and as soon as I could get time I prepared and administered a powerful opiate, and my patient soon became "quite comfortable." Upon examining then externally, I could feel the uterus in the position natural at such a time and of its natural globular shape.

Having thus intercepted a uterus in the very act, as it were, of turning itself inside out, I can have no great difficulty in believing that it might have done it, and that without any fault of mine in this case, if the pain had come but a second or two later, after I had withdrawn my hand.

ART. XVIII.—*Case of Tænia, successfully treated with Turpentine.*
By F. N. BURDICK, M. D., Readsboro', Vt.

A man came to my office on the 30th of last December, from whom I learned the following history: He had been gradually running down for the last three years, without any perceptible cause. He became so much enfeebled as to be unable to attend to his business. His appetite was variable, sometimes voracious, at others entirely wanting; bowels irregular, breath offensive, and a good deal of emaciation. He was very subject to headache, with a vague feeling of distress at times, which he referred to the epigastrium. Any trifling exercise fatigued him so much that he was obliged to sit down and rest.

About three months previous to consulting me, he for the first time passed portions of *Tænia*; these continued to appear almost daily till I saw him. I gave him ten grains of calomel at night, to be followed by an ounce of castor oil in the morning, enjoining him to eat no supper or breakfast. In the morning I found his bowels had been thoroughly cleared, when I administered three ounces of oil of turpentine, with some oil of peppermint, followed in about an hour with a dose of brandy. The remedy had no unpleasant effects. In the course of two hours he was effected with a peculiar intoxication, a "wavy feeling," as he called it. It produced but two or three stools, and these were small; but in the course of the following night, a *Tænia Solium* was expelled about thirty-five feet long. It is now four months since the discharge of the worm, and there has been no reappearance of it, and the patient continues well. I consider it better treatment to administer turpentine in large doses than to give only half an ounce at a time in these cases.

SELECTIONS.

THE PHILOSOPHY OF STINKS.

[From the *Annual of Scientific Discovery*—Abridged from the *London Review*.]

There is a fallacy in the almost universal opinion that, because a stink is unpleasant, it must necessarily be injurious to health. Yet a very small survey of familiar facts would disclose that our likings and dislikings in the matter of smell or taste, are by no means accurate criteria of what is wholesome and what is noxious. Unfortunately, we like many things that are notoriously injurious; and many things that are unpleasant are notoriously beneficial. Not only are these familiar truths, but a little inquiry discloses a mass of evidence which proves that even the odors of a too composite river, or an ill-drained district, unpleasant as they may be, are very far from carrying pestilence and plague with them wherever they go. We are not going to assert that the question of drainage is not very important. We have no desire to propound the paradox that stinks are wholesome because disagreeable; but we call attention to the fallacy of assuming that because they are disagreeable they must necessarily be injurious.

Is it a demonstrated fact that the exhalations from a foul river cause cholera and fever? So far from its being demonstrated, the evidence at present seems decisively opposed to such a conclusion. Is it demonstrated that the exhalations from the sewers cause cholera and fever?

The public, generally, has no doubt upon the subject, but an English physician of some note, Dr. Parkes, has recently, in a published work, assumed the position that the evidence we possess in regard to these matters is altogether against the theory that cholera, fever, and other diseases are owing to the decomposition of organic matter and the use of impure water. His evidence is founded on experience of very various climates and latitudes—the intertropical regions of the East and West, the burning sands of Arabia, and the snow-covered steppes of Russia, as well as the more temperate regions of Europe and America—evidence which, if not conclusive, is at least exceedingly interesting.

Thus, the injuriousness of imperfect drainage is said to arise from the noxious influence of all organic matters, animal and vegetable, when in a state of decomposition. That putrid flesh and vegetables are generally unpleasant, both to taste and smell, is a

fact; but are they as injurious as they are unpleasant? Some putrescent matters are injurious when eaten, although many can be, and are, eaten with impunity, and all of them are injurious if they enter the blood. The surprising fact that the Indians kill their game with poisoned arrows, yet suffer no harm from eating the flesh thus poisoned, is intelligible to the physiologist, who sees that the poison of the arrow enters the blood of the animal; but the poison of the poisoned flesh, which is eaten, does not enter the blood. It is on the same principle that we can explain why an anatomist may spend day after day over putrid bodies, (in an atmosphere the stench of which makes the stranger sick,) yet suffer no harm beyond what would result from sedentary confinement in any other room; nevertheless, let this anatomist scratch himself with the scalpel which he has just used, and this little wound may be his death. He could breathe the air laden with the products of decomposition, and, if oxygen were sufficiently abundant for respiration, no harm would ensue; but he could not admit decomposing matter into his blood without serious injury.

In the above paragraph we have briefly stated what seems to us the physiological principle involved in this question. Putrid substances are poisonous only in the blood; but the gaseous products of putrescence are not poisonous. We assume, of course, that the gaseous products are not too abundant to prevent respiration; otherwise the effects of imperfect respiration will ensue, but these are not cholera or fever.

With this preliminary explanation, let us now look at Dr. Parkes's evidences:

Magendie arranged a cask in such a way that the bottom could hold putrid substances, whilst animals were placed on a grating with a double bottom, exposed to the exhalations which constantly escaped. Rabbits, guinea-pigs, and pigeons were left thus for a month, but did not experience any ill result. Dogs, on the contrary, began to lose flesh on the fourth day, and, although they preserved their gaiety and appetite, died at the end of ten or fifteen days. But the dogs showed none of the symptoms of poison; they showed none of the symptoms observed in dogs into whose veins putrid matters had been injected. Their death was obviously caused by imperfect respiration. Rabbits and guinea-pigs require less oxygen in a given atmosphere than dogs, by reason of their smaller size. But that exhalations from decaying matters are not injurious, when respiration is unimpeded, seems evident from the experience of leather-dressers, knackers, butchers, and others. Mr. Newman informs us that the leather-dressers in Bristol are not only healthy, but more so than the rest of the neighboring poor, although, during the last part of the process, the stench is almost intolerable. In the tan-yards at Bermondsey, there are about seven hundred workmen, all remarkably healthy. Again, Dr. Chisholme says that, in a manufactory near Britton, for the

production of muriate of ammonia and sulphate of soda, and where the distillation of the medullary oil produces the most nauseating fetor, no fever is known to arise, although the neighborhood is thickly populated. The same exemption has been remarked at a manufactory near Bristol for the conversion of dead animals into a substance resembling spermaceti; and where the same putrid exhalations are given out. Further, slaughter-houses, which, according to theory, ought to be centres of pestilence and fever, have been singularly exempt from them, as was noticed during the plague and during the cholera. Dr. Tweedie says: "Though every description of mechanic was at some period or other admitted last year into the Fever Hospital, I do not recollect a single instance of a butcher being sent to the establishment."

The perfume of the graveyard is far from agreeable, and graveyards have for some years been regarded as centres of pestilence and fever. When pestilence and fever are raging in a district, it is not difficult, of course, to find that a graveyard is somewhere close at hand; but this is extremely imperfect evidence of any necessary connection between the two; and it becomes still more suspicious when we find that at Bridgetown, Barbadoes, eight thousand bodies were buried in six weeks in a space of two acres, yet neither fever nor any other disease attacked the inhabitants afterwards. The same remark applies to nearly all the large towns in the West Indies, in consequence of the practice of burying cholera victims in one spot. In the burial-grounds near Seville, ten thousand bodies had been recently interred, when, in 1800, the French government sent a commission to inquire into the causes of yellow fever; and although a fetid odor was exhaled from the decomposing bodies, no ill result followed to the thousands of the inhabitants who went daily to visit the graves of their relatives and friends. And what shall we say to the Cemetery of the Innocents at Paris? In the course of thirty years, ninety thousand bodies had been buried there by one grave-digger, and it was calculated that more than six hundred thousand bodies had been buried there during the six previous centuries. In a space not exceeding two acres, it had been the custom to bury the bodies of the poor in common pits, and they were placed so close to each other as to be only separated by planks of six inches each. These pits were twenty feet wide and twenty deep, and each contained ten or fifteen hundred bodies. It is difficult to say how Paris escaped from continuous attacks of cholera, and how the grave-digger managed to breathe this atmosphere during thirty years, if graveyard exhalations are the fatal poisons they are declared to be.

The authority of Duchâtelet is invoked in a very striking case. At Montfaucon, in Paris, there is one of the most extensive knacker-yards in the world. Thousands of horses, dogs, and cats, are slaughtered there,—the flesh and offals after the animals are skinned, being allowed to remain and putrify for the purpose of

manure. "Every one," says Duchâtelet, "can examine the foetid odor produced by heaps of flesh left to putrify for months in the open air, and in the heat of the sun; to which must be added the gases given out from mountains of skeletons not properly cleansed from the soft parts, and the emanations arising from a soil saturated from year to year with blood and animal liquids. But if you interrogate the numerous workmen who belong to the establishment, they will answer that they are never ill, and that the effluvia which they inhale, far from injuring them, contributes to keep them in good health. If you examine them, you will see they have all the appearance of the most perfect health. The robust health of the wife and five children of Friand were remarkable, for they had all the year worked and slept in a place which was actually unapproachable to the members of the commission, on account of the stench." He also notices the longevity of those knackers. "Many of them are sixty or seventy years old, quite robust and active. Inquiries showed that their parents died at an advanced age; of the last three knackers that died, one was sixty, another seventy, and a third eighty-four."

Such are some of the facts adduced by Dr. Parkes in support of his views, and sanitary reform will not be aided by eluding or suppressing them.

ANIMAL PARASITES OF THE HUMAN BODY.

[Prepared for the Cincinnati Lancet and Observer, by C. A. Hartmann, M. D.]

ENTOZA.

1. *Ascarides*.—A correspondent of the *Southern Medical and Surgical Journal*, starting from the fact that "there are a very great number of individuals who are tormented by these animals," thinks two facts in the history of these parasites must be ascertained; and these two facts he finds nowhere satisfactorily told. They therefore should be the special objects of study with those who desire to investigate the subject. The first is: What is the actual seat of the ascarides; how high up in the intestines do they live and breed? Can we always reach them with our injections? Are the ova deposited high up, and the animals developed as they pass down, making their presence known only in the rectum? or do they live and breed, and are developed only in the rectum? In the one case, remedies applied *per anum* can only give temporary relief by removing those of the animals which are present in the rectum; but if they do live and breed nowhere else, we have to investigate why it is that remedies are in so many cases ineffica-

cious for the cure. A remedy is also to be shown which, while it is destructive to the ascarides, is at the same time harmless as regards the intestinal walls. Does the thick mucus which is so readily thrown out by the irritated mucous membrane of the rectum form a cover or *nidus* for the ova, protecting them against the destructive influence of injections? Or, again, may not the ova of the animals, (if their actual and only habitat be the rectum,) be deposited beneath those large folds of mucous membrane which encircle the lower portion of it in particular, and so in great part escape altogether the action of injections, unless when large quantities are thrown into the gut, so as to distend it completely? Every day we see accounts of a certain cure for ascarides; but the fact that numbers of individuals have been all their lives the subjects of these worms, and cannot get rid of them, proves that the right cure has yet to be found.—*Cinc. Med. and Surg. News*, June 15th, 1860.

The first of the questions here proposed has not yet been attended to; in reply to the other, we can only point to a few remedies recommended by European authors, but mentioned in our journals. In the February number, 1860, of the *Lancet and Observer*, there is a notice of Dr. Compénat's method, consisting in a simple injection of water, with from five to twenty drops of sulphuric ether. This certainly does produce the desired effect, at the same time rather benefitting the intestine than injuring it.

According to the *Bulletin de Thérap.*, tome 56, Dr. Hervieux found castor oil to be the best purgative: it always evacuates the worms, giving the patient a truce of some months. When the oil cannot be taken, the daily injection of cold water is the next best palliative. For a radical cure, Hervieux admits to know of no agent. Mercurial ointment, passed in upon the finger, is said to be of no durable efficacy. (In contradiction to this assertion, Dr. Bourgeois has stated, in *L'Union Médic.*, 70, 1859, that the gray ointment had never failed in his hands during a period of twenty-five years.) Injections of olive-oil, of sulphuret of potassium, of lime-water, or of corrosive sublimate, have, in the experience of Hervieux, never led to a definite cure; and he thinks in some cases time is the sole agent capable of completely destroying these helminthæ.—*North Amer. Med. Chir. Rev.*, May, 1860.

Dr. R. Wilbr. Falconer, during the past eleven years, has been in the habit of using diluted phosphoric acid, with infusion of quassia, in cases of ascarides, at the Bath United Hospital, and in private practice; and he says he has as yet no reason to mistrust its efficacy.—*Amer. Druggists' Circ.*, Feb. 1860.

The following formula is furnished by Dr. Wm. Scofield, of Stamford, Conn.: Oil of turpentine and oil of pumpkin-seed, of each half an ounce; rub them together with the yolk of an egg, and suspend the whole in one pint of water. To be used as an enema.—*The Journ. of Mat. Med.*, July, 1860.

2. *Lumbrici*.—Against them, Dr. Wm. Scofield, just mentioned, recommends (l. c.) a cathartic pill, followed by half a drachm of the fluid extract of spigelia, one drachm of the fluid extract of senna, and one drachm of sulphuric ether. To be repeated, if necessary. If there be much nervous disorder, in children, give the fluid extract of valerian, in proper doses; if digestion is feeble, the chalybeate preparations.

3. *Tænia*.—Two cases are on record, in both of which podophyllin formed one of the remedies employed; in the one, however, that agent was exhibited only as ingredient of a cathartic pill, the oil of turpentine coming in as vermifuge proper; and in the other case so many different things were thrown into the patient's bowels that it is impossible to say which of them expelled the worm. Neither of these cases, therefore, proves anything in reference to the vermifuge powers of podophyllin.

Dr. D. N. Ferguson, of Carthage, N. Y., was called to treat a Miss F., 29 years of age, who had long suffered from tape-worm, and had frequently passed pieces of it; amongst them one seven feet long. The first day he sparingly administered some meal gruel, giving the next morning the following cathartic: Pulv. jalapæ, ext. colocynth, of each six grains; podophyllin, four grains. Make into nine pills—three to be given every four hours. A little meal gruel in the evening. At nine o'clock, A. M., of the third day, the patient took one fluid ounce of the oil of turpentine, followed, three hours later, by one and a half fluid ounces of castor oil. At four o'clock, P. M., twenty-five feet of *tænia lata* were expelled.—*Philad. Med. and Surg. Journ.*

The other patient is described by Dr. E. C. DePay, of Freeport, Ill., as "a pale, delicate woman, with a dark, leaden appearance of the contour of the eyes; aged twenty-nine years; the mother of two children, the youngest five years old." She was suffering from convulsions, supposed to be of an epileptic character, and to be caused by some decayed teeth. The latter having been extracted, the woman was put upon vegetable bitters and iron. Her health improved somewhat, but at times she felt very nervous; and a peculiar sensation about the jaws, running from them down to the neck, did not abate. Five months afterwards, she again had convulsions, which were relieved by tincture of gelsemium, fluid extract of scutellaria, and chloric ether, in equal parts, teaspoon doses, and chloric ether in inhalations; also, friction along the spinal column, with some caustic liniment. A careful examination failed to reveal the cause of these spasmodic attacks. The bowels moved regularly, the urine appeared healthy, the function of the womb normal. Prescription: Hydrocyanate of iron, extract of hyoscyamus, of each one drachm,—to be made with mucilage q. s. into one hundred and twenty pills, one of which should be taken three times a day, or more if required. Against the

nervousness: Fluid extract of scutellaria, two ounces; fluid extract of prunus virginianus, simple syrup, of each one ounce. A teaspoonful to be taken as occasion requires.

Upon this some improvement is recorded, but the patient now complained of a constant spitting of offensive mucus, insensibly rising up in her throat. That symptom led to a suspicion that worms might be present. To operate mildly on the bowels, and partly as a vermifuge, from three to five grains of the following compound were ordered every four hours: Podophyllin and powdered Jamaica ginger, of each one drachm; sugar of milk, one ounce. Also, to take two grains of quinine three times a day, for its tonic effect on the nervous system. The powders produced very offensive stools, of the consistence of tar, mixed with hardened masses, and containing, also, numerous pieces of tape-worm, from a single joint to half a yard in length. Thereupon the same medication was continued, with a light diet: a little panada and wine. After three or four days, a decoction of pomegranate-root bark (two ounces boiled with two pints of water down to one pint) was ordered, a wineglassful every hour or half hour, as the stomach would bear, until all was taken; to be followed, if the bowels were not much moved, or the worm not passed, by a dose of castor oil and turpentine.

The patient commenced taking the decoction about noon. At 11 o'clock at night her bowels moved, and the worm, a specimen of *tænia solium*, passed away, with "fully as many heads as tails." The woman felt very faint, but otherwise comfortable; had no pain. Instead of the oil and turpentine, a little wine and water was ordered, and rest until morning. At that time the bowels moved again, and continued to do so every day, without purgative medicines. No more joints of the worm could be found in the stools. The patient lost the drawing of her jaws, and recovered completely, with the exception of some nervousness, for which pills of the hydrocyanate of iron and Tilden's aromatic Calisaya wine were given.—*Chic. Med. Journ.*, April, 1860.

An instance where one thousand feet of tape-worm were expelled by the mucilage of pumpkin-seed, has been mentioned in the *Lancet and Observer*, February, 1860. Several other cases have since been published, corroborating the well-established efficacy of that simple and cheap remedy against *tænia*. The accidental discovery of Dr. Passot, that tartar emetic in large doses proves, in certain cases, a successful poison to the worm, is recorded in the June number of the same journal.

Among some "cases in medical and surgical practice," reported by Dr. A. Lopez, of Mobile, Ala., there is one of tape-worm, the presence of which had been first discovered by the patient, an English seaman, on the coast of Africa, twenty months previous to his entering the U. S. Marine Hospital. Treatment: First day, thin soup diet; second day, Seidlitz powder at bed-time.

Early in the third day an infusion of kousso, half an ounce in twelve ounces of water, was given at a draught, followed in one hour by a cup of warm tea, and in four hours by a Seidlitz powder. At 2 p. m. he passed eighteen feet, unbroken, of the worm. A repetition of the remedy was intended; but the patient left without permission before the next visit.—*North Amer. Med. Chir. Review*, March, 1860.

Dr. G. B. Curtis, of Hawley, Pa., treated three cases in one family. The mother took a teaspoonful of the oil of turpentine three times daily, in a little compound spirit of lavender, interposed every third day with a dose of castor-oil. The second and third repetition of the cathartic resulted in the voiding of many shreds and joints of *taenia solium*. Urinary irritation supervening, the treatment was stopped, and mucilaginous drinks, with cold infusions of bitter barks, given for some time. All the bad symptoms and feelings disappeared, and the patient enjoyed good health afterwards. But the oil of turpentine had no effect in two children of the same woman, a daughter aged two, and a boy aged four years. They were relieved by kousso, the girl taking one drachm of the same, with three grains of powdered jalap in one and a half fluid ounces of sweetened water, a teaspoonful every ten minutes, her brother double that dose, in the same manner. Each child passed a worm in from three to four hours, measuring twenty-five and forty-five feet in length respectively. Both worms were broken into several pieces; no head was found in either case, but the children remained ever since free from any of their former symptoms.—*The Journ. of Mat. Med.*, August, 1860.

In five cases, Dr. Darrack, of Quincy, Ill., effected the expulsion of tape-worms by the administration of aromatic sulphuric acid. In one instance, a fluid ounce of the acid in a pint and a half of water was directed to be taken by the patient at his convenience. In other cases, three drachms of the acid were given in twenty-four hours.—*Amer. Journ. of Med. Sciences*.

In regard to the *kamela*, or *kamala*, a red powder obtained from the fruit of *rotlera tinctoria*, in India, and recently introduced as a remedy for tape worm by Drs. Anderson and Mackinnon, in England, some more facts are collected in the *London Chemist and Druggist*. The plant grows abundantly on the hilly districts of India, Burmah, the Phillippine islands, and the north-east portions of Australia. It has been known to the Hindoos from the remotest antiquity; and they employ the powder, carefully brushed off from the ripe fruit, against tape-worms and skin diseases. It contains a resinous coloring matter, albuminous substance, cellulose, carbon, water, and some traces of volatile oil and volatile coloring matter. Dr. Anderson separated from it granular, scaly crystals of a yellowish color and satiny lustre, to which he has given the name of *rotlerinine*. *Kamela* is considered by Dr. Mackinnon to be a remedy against tape-worm of much greater value than either

koussou or turpentine. Dr. Anderson expelled with it the worm in ninety-three out of ninety-five cases. It has also been employed with great success against tape-worm, as well as ascarides, by Dr. A. Leared, of the Great Northern Hospital, and by Dr. W. Moore, of Dublin. The *Lancet* of May 15th, 1858, records six cases of tape-worm cured with the same remedy by Dr. Ramskill, of the Royal Free Hospital. In some instances sickness, headache, and purging are produced by it, but generally its administration is attended by no unpleasant result. The remedy may be given in the form of powder or tincture. Dose of the powder, from one to three drachms early in the morning, fasting. As alcohol extracts the medicinal constituents most perfectly, the tincture made with rectified spirit, (half a pound of the powder being macerated in a pint of the same for fourteen days,) is very suitable for administration. It can be taken in doses of one or two drachms, night and morning, on a lump of sugar.—*Amer. Journ. of Pharm.*, July, 1860.

In making some "remarks on the entozoa," Prof. F. W. B. Hemming, of Oglethorpe College, (*Oglethorpe Med. and Surg. Journ.*, March, 1860,) complains, and in part justly, that the treatment of worms in general has not received the attention it requires. "Beyond the miserable vermifuges compounded for the torture of tortured innocents, nothing has been done!" Some proof to the contrary is furnished in the preceding quotations. "Not even a *diet of worms* has uttered a syllable of practical importance. Our grandmothers are still the highest authorities on these matters. Our profession has become so dignified it looks with equal disdain on the vermin and their ravages." From the picture now given, it looks as if the physicians of Georgia did indeed not know of any other advice in cases of worms than "get a little vermifuge, and follow it with a good cathartic;" which assertion is too discreditable to the profession down there to be believed, in the general application it is given. That there are physicians all over the country, however, who do "look with disdain on the vermin and their ravages," and prefer to order some vermifuge nostrum rather than take some pains and treat the case rationally, must be admitted; and they not only deserve rebuke and exposure, but may also profit from the recommendations given by Prof. Hemming. He goes on to say:

"1. Destroy the ova in the excrements. Never allow these matters to reach our rivers to sweeten our fish and to return down our throats. Excrements should be collected in a proper tank, treated with sulphuric acid, and mixed with gypsum, charcoal dust, burnt turf, or even common earth.

"2. If you want not tape-worm and seven other varieties of entozoa, eat no pork.

"3. Filter your water. If all the water used by a family was properly filtered, although taken from a swamp swarming with

entozoa, none of them would ever enter the human intestine. Drink filtered water. Keep your wells and springs from being inundated by rain-water that has washed all the surrounding filth into them. Keep them well walled within, and the water running from them, and allow none to enter into them but that which naturally supplies them. Filter the water; boiling will not do. You may boil, bake, roast, or stew the ova of the entozoa, and you do not kill them.

"4. What shall be done for the extinction or diminution of the entozoa? Do anything that is sensible. The best vermifuge is a good syringe that will wash out the colon. Injections, or, I should rather say, washings of the colon, are all that is necessary. Use salt, or aloes, or soap in the water, if you like, but wash the entire colon gently but thoroughly out. Then keep them out. You have been told how.

"The above will not apply to the tape-worm. If you have one, then turpentine must be your portion. If you want another, eat pork.

"One fact relating to the *ascaris vermicularis*, or pin-worm, deserves to be mentioned. They always abound in the persons they plague, when these persons are in an anæmic condition. As the health fails and the body weakens, these troublesome pests swarm within, and, after the operation of a cathartic, will be voided in countless quantities. As the constitution recovers its tone, and health returns, they diminish in number, and sometimes altogether disappear,—until weakness returns, when back they come—pitiless, tormenting, and innumerable. We should never forget this in the treatment of anæmic children. It is no use to wait until tension of the abdomen, or loss of appetite, or occasional greediness, or bad breath, or that indescribably peculiar look about the eyes, lead us to suspect the presence of entozoa. Then they have been there too long. We should have the colon of an anæmic child well washed, and the matter carefully examined. If no entozoa are found, we have done no harm. If they are there, we may defeat marasmus and convulsions, and postpone an untimely death."

4. *Hydatids*.—The few accounts of hydatids published during the year previous to November 1, 1860, all refer to affection of the liver. Besides the two cases mentioned by Prof. Comegys, before the "Cincinnati Academy of Medicine," last April, (*Lancet and Observer*, May,) there are only two others presenting any peculiar feature.

The history of one was related to the "Boston Society for Medical Improvement," October 10th, 1859, by Dr. Minot, who also exhibited some of the parasites. A lady, aged 35, married, had always some catamenial irregularities, was never pregnant. For several years past she had pain and uneasiness in the right hypochondrium, the pain shooting to the back and up into the

right shoulder. In the spring of 1856 an obscure tumor was discovered in the same hypochondrium, deeply seated beneath the integument; this tumor rapidly increased in April, 1857, compressing the lung so that no respiratory murmur could be heard, except in the upper part of the right chest, and, of course, embarrassing the respiration. It was excessively painful and tender. One night the patient had several enormous evacuations from the bowels, the discharges being clear, colorless, fluid, and excessively foetid. The tumor at once almost wholly disappeared. She was extremely prostrated and had much fever, from which she slowly recovered. About June 1st, 1857, she began to cough and to expectorate frothy mucus. About September 1st she began to cough up hydatids of various sizes. This occurred about twice a week, two or three being detached each time, with a sensation as if they were detached from the lower part of the right lung. The tumor diminished, and in October, 1857, could no longer be felt. Her health steadily improved, and in September, 1859, she was quite well. She had not coughed up any hydatids for three months.—*Boston Med. and Surg. Journ.*

The other case had been originally reported in the *London Lancet*, from which it was copied by the *Ohio Med. and Surg. Journ.*, May, 1860. The patient was admitted to Guy's Hospital with symptoms of hepatic disease and local peritonitis; he had jaundice a month previously. He survived but a short time. The obduction revealed a large hydatid cyst at the upper part of the liver, which had burst into the hepatic duct, its contents passing thence to the common bile duct and into the duodenum.

EPIZOA.

1. *Jigger, Chigoe, Chiggo, Chiggere, Chegæ, Cheque, Chique, Tick, Pulex penetrans, Sarcopsylla penetrans*, etc. (*Chiquito*, in Spanish.)—Some valuable information about this little-known insect has been furnished to the Medico-Chirurgical Society of San Francisco. Two of the reports are published in the *San Francisco Medical Press*, Apr. 1860, and from them we gather what follows. Dr. J. Rowel states that the parasite commonly called jigger abounds in Central America, the West India Islands, Texas, and some other states of the Union. The insect, which, when newly born, is invisible to the unaided eye, penetrates the human skin, where it feasts and fattens in safety, and grows to an enormous size, compared with its former proportions. A most dangerous quality of it is its faculty of propagation, by which it literally fills the unfortunate victim with a numerous family of jiggers, causing the most intense irritation, inflammation, and swelling. "I have seen the natives of Central America crippled for life; their lower extremities distorted with the most hideous deformity, and alive with jiggers of all ages and sizes. Nothing but amputation affords any relief in this stage of this distressing malady."

One of these parasites, at least one-fourth of an inch in thickness, about an inch and a quarter in length, and tapering at each extremity, like the finished end of a cigar, was taken from the thigh of a laborer in San Francisco, about six months subsequent to his working on the Panama railroad, where he was supposed to have contracted the insect. The part was swollen and inflamed, and appeared externally like an ordinary boil. The insect lay encysted just beneath and perpendicular to the surface; it was carefully removed with the cyst, which latter is said to contain the ovaria; and these, if left behind, would soon be hatched into a numerous family, more dangerous than the parent stock.

A second instance occurred in a drayman, who complained of a burning pain on the surface of the epigastric region, shortly after cutting wood in the neighborhood of Lone Mountain Cemetery, near San Francisco. The affected part proved painful to pressure, and exhibited a bright areola, extending some two inches around a central puncture, like a bee-sting. Under the supposition that this was merely the bite of some poisonous insect, the patient was directed to paint it with tincture of iodine. Twenty days subsequently, the man complained of a similar pain on the back, nearer the lower dorsal vertebræ. This presented the same appearance as the former, without the puncture in the centre. On pressing, it gave to the finger a slight sense of fluctuation, and a burning, lancinating pain to the patient. This burning, itching pain had been present during the last twenty days; and in the same time the redness and swelling had moved once and a half around the patient's body. A puncture through the skin, in the centre and left portion of the swollen part, followed by pressure on either side of the opening, brought forth a live jigger, one-fourth of an inch in thickness, and three-fourths of an inch in length. It was not encysted. This is the first California jigger met with. In its habits it appears to differ from the Central American, being migratory. The wood-cuts accompanying the report, and which are said to give a perfect idea of the size and appearance of the two jiggers, show, however, that both are of the same species, having exactly the same form and marks (about twelve dark-colored transverse stripes); their history, also, is in favor of the idea that the smaller, not encysted, animal is only a younger individual, not fully developed.

The editor of the *San Francisco Medical Press* adds to the report some supplementary remarks. From all we can learn, says he, the jigger varies in shape and size very greatly. It has been removed in some instances in a shape almost round, of a black color, and having many legs. The moving jigger is always found much larger than the one which remains stationary.

One of the specimens mentioned has been transferred to the museum of the Pacific Clinical Infirmary; but a minute examination and anatomical description seems not to be thought of.

Another part of the history of this parasite is supplied by Dr. J. Haine, who, singularly enough, in all the cases that came under his observation, never found anything but cysts and eggs, although he was a sufferer himself.

In 1849, being about fifteen days from Callao, on board a ship bound for San Francisco, one of the passengers complained of a painful itching at the bottom of his foot, near the big toe. A dark blue round spot was there, about three inches in diameter; no swelling or redness around it. On being opened, a drop of brown liquid came out, and, after a little pressure, a kind of reddish semi-transparent pouch, as big as a sweet pea. This pouch bursted, and little eggs, similar to those of the fly, came out in a great quantity. Some of the sailors pronounced the thing a jigger, and advised to put immediately cigar ashes in the wound, or the man would lose his leg. Instead of that, nitrate of silver was used. In three days the patient complained again of severe pain; on opening the wound and applying pressure, another quantity of eggs came out, and two or three days after some more. The wound was each time cauterized, and healed up the third time. Several other passengers, on examining their feet, found themselves also in the possession of jigger's eggs, which were destroyed by the same process. Two had them on the big toe, right under the nail.

Returning from Europe, in 1854, Dr. Haine crossed the Isthmus of Nicaragua. Two months afterwards he felt for a few days an itching sensation on his great toe, and discovered a black spot, similar to that of the jigger, without swelling or redness. He tried to extract the pouch without bursting it, but in vain. Plenty of eggs were visible, held together by a sort of mucous liquid. Pressing until he thought to have seen the last of them, he cauterized the wound thoroughly. Next day the toe was somewhat swollen, and a slight suppuration had taken place; through pressure, several more eggs came out. For three days a sensation of burning was felt, combined with redness and swelling of the toe. The Doctor cauterized every day; finally, the wound healed. There had been over four hundred eggs in it.

A little girl, who had accompanied her father to the Nicaragua Walker expedition, complained, on her return, of sore feet. She had black spots on the soles, all of which covered large quantities of eggs. About fifty of these spots were opened, not only at the bottom of the feet, but on and between the toes, and several on the legs.

It has been tried to keep the eggs on velvet, under a glass in a warm place, to hatch them out, but they dried up.

It will be readily seen that, in spite of all this information, there are yet a good many points in the history of this little creature which require elucidation. As the physicians of California appear, from the foregoing reports, to have not unfrequently an opportunity of observing the parasite in its natural state, we may justly look to them for some further facts respecting it.

2. *Filaria Medinensis*; *Dracunculus*; *Guinea Worm*.—A patient suffering from this parasite has been treated at the Seaman's Hospital, New York, and we have a full report of the case from the pen of the house-physician, Dr. C. E. Leverance. The man was admitted June 11th, 1860. He had been in Morocco six years ago, traveling there for nearly a month with uncovered feet, and sleeping on the ground; since August, 1854, he had not left his native country, the United States. About four weeks previous to admission, while "before the mast," en route from New Orleans to New York, he observed a swelling below the right external malleolus, attended with slight itching, and gradually extending. After admission this swelling was found to extend from around the right ankle nearly to the knee. It was quite dark colored, and attended with intolerable itching throughout the day. From 6 or 7 o'clock in the evening until daylight, the patient was kept awake by a tormenting jerking pain, as if the bone was being gnawed off. On June 17th, about two inches above the malleolus, a vesicle was punctured at the apex of what appeared to be a body, when, with the semi-transparent serous discharge, in quantity perhaps half a drachm, the loop of a dracunculus was observed protruding fully an inch. Resort being had immediately to Dr. Livingstone's method, to wit, the roller compress and adhesive straps, in forty-eight hours the head, together with half a yard of the body, was extracted. The patient being alone when the head appeared, and being anxious to remove it himself, applied too much force, and broke the body, leaving a portion of unknown length hidden in the tissues. Inflammation and pain followed, increasing for several days. Lines of livid red, one-fourth of an inch wide, extended around and across the leg, and half the distance from the knee to the hip. These gradually subsided, the swelling and pain diminished day by day, and after considerable suppuration the wound healed. On the first of August the patient could be discharged.—*Amer. Med. Times*, Sept. 6th, 1860.

ABSTRACT OF CURRENT MEDICAL LITERATURE.

MECHANICAL TREATMENT OF CICATRICES.—The London correspondent of the *New Orleans Medical and Surgical Journal* says: "At the Orthopædic Hospital, I had an opportunity, a few days ago, of observing, under the guidance of Mr. Holmes Coote, the happy effect of mechanical treatment in many cases of club-foot, lateral curvature of the spine, cicatrices following severe burns, etc. It has happened to me on many occasions to have watched the treatment of these cicatrices, and to have had to record in my note-

book the almost uniform failure of all operative procedures adopted for their cure. I have witnessed the excision of the entire surface, *en masse*—its gradual removal; the substitution of healthy tissue from various parts of the body; the division of the cicatrix by many small incisions, varying each from half an inch to an inch in length, and placed in parallel lines of one or two inches apart, throughout its whole extent, but in no case do I find anything like satisfactory results; the last-mentioned plan, indeed, adopted by Mr. Skey, and which gives the altered structure very much the appearance of a piece of net work, when combined with gradual extension, has promised well, and the patient has returned home, after the healing of the wounds, much benefitted by the operation; but the improvement has, I fear, in most cases been temporary, so great is the contractile power in these deformities.

“Mr. Coote attracted my attention to several patients in different stages of treatment, in whom the cicatrix, the result of a severe burn upon the chest and neck, had involved in its contraction the chin and under lip, both of which were drawn down upon the sternum, and there immovably fixed—the entire eversion of the lip and consequent flow of saliva over the surrounding tissues, rendering these poor patients most repulsive in appearance. All such cases, notwithstanding their severity, and the almost ligamentous character of their adhesions, were treated by extension only, applied by a simple mechanical contrivance, and persevered in for many months—the results being most happy. A well-fitting metal ring, padded, is fixed round the patient's waist, forming the support behind of a steel upright, which again is steadied in its position by straps around the shoulders; from the upper end of this project forward, on each side of the neck, and beneath the chin, two well-padded supports, fixed to the upright by movable screw and cogwheel joints, by which they may be raised or depressed by means of a key, at pleasure. By this simple contrivance, permanent, steady extension is effected, resulting in the most perfect cures.” (*Medical and Surgical Reporter.*)

REPRODUCTION OF BONE.—The special function of the periosteum has been clearly established by numerous experiments, within the last two or three years. Our readers will recollect that several reports have been published, tending to prove that the periosteum alone reproduces the bone. Portions of this membrane have been dissected up, and buried in the muscular tissue, and even entirely detached and transplanted into the substance of a muscle in another limb, and in each case the operation has been followed by a copious formation of bone in the tissue contiguous to the membrane.

The discovery is one that will affect very much the conduct of a variety of operations—all, indeed, in which the integrity of bone is interfered with, either in cases of fracture, or any operations

for removal of diseased bone. No care that can be employed for the preservation of the periosteum, will hereafter be thought needless.

In the *San Francisco Medical Press* for April, Professor Cooper publishes a case in point :

August J—, two years and seven months old, was admitted into the Pacific Clinical Infirmary, July 18, 1860, for a disease of the tibia of ten months' standing. The affection of bone was the result of a very slight injury of the limb, a year previously. The limb was swollen to three times its normal size, and at times, quite painful. Sinuous openings, leading to the bone, were found in different places.

An incision, eight inches long, was made on the outer side of the leg, over the spine of the fibula, through the soft parts covering that bone, and continuing to below the external malleolus. The soft parts were then removed with a chisel, (which, by the way, is the only proper instrument for this purpose.) With this instrument, the soft parts are peeled off from the bone, which may in many instances be fully exposed, without any transverse section being made, or risk of wounding adjacent blood-vessels or nerves.

The soft parts being removed, the fibula was fully exposed. It was found much diseased, and in the lower part almost as soft as cartilage. Five inches of the lower extremity were removed, including the malleolus. The bone was divided above by a large pair of bone forceps, and its attachments below removed by the chisel.

The bone was somewhat enlarged above the point at which it was divided, but not diseased to a sufficient extent to require removal.

The patient took iodide of potassium and extract of conium the first three months after the operation. The wound gradually healed by granulation, and the strength of the limb has been slowly restored, until the present time, March 30, 1861, eight months after the operation. The little patient walks comparatively well, and is all the time improving, with a prospect of its continuance, until a complete cure is effected, with an entire reproduction of the lost bone. The solidity of the parts occupying the place of the lost bone is such as to indicate its reproduction, to a great extent, already. To those familiar with the immense number of cases in which a large amount of bone has been removed in California, and afterwards restored by reproduction, the result of this case will not be surprising, but it will be considered rather as a matter of course.

Championnière's Journal for April has the following remarkable case in which a similar operation was performed :

REMOVAL, BENEATH THE PERIOSTEUM, OF THE SHAFT OF THE TIBIA.—

" Remove the bone, preserving the periosteum, and the perios-

teum will restore the bone." Such was the conclusion flowing from Mr. Flourens's experiments on the secretory and generative power of the periosteum. Mr. Maisonneuve presents to the Institute a man, who was on the point of undergoing amputation of the thigh, and who, thanks to the preservation of the periosteum, has been supplied with a perfectly new tibia, of superior quality.

The following are the details of the case :

In the month of August, 1855, Mr. Maisonneuve was consulted for a young man, whose right leg was in a frightful condition. Its size was enormous, and deep ulceration was present over its entire surface, and it was but too obvious that the whole shaft of the tibia was in a state of necrosis. The patient stated that some two years before, while engaged in gymnastic exercises, he had met with a severe fall, that deep-seated aching pain in the leg had been the consequence, together with general tumefaction of the limb, and subsequently abscesses, which had gradually brought about the present condition, viz: copious and fœtid suppuration, enormous increase of size of the leg, extreme emaciation, hectic fever, etc.

Despite the opinion of Mr. Velpeau and other eminent Paris surgeons, that amputation was indispensable and urgent, Mr. Maisonneuve, trusting in the regenerative power of the periosteum, proposed to extirpate the bone beneath that membrane, which operation he performed as follows :

"The patient having been fully placed under the influence of chloroform, I performed along the entire length of the tibia, in an extent of about fourteen inches, a section penetrating to the bone through the periosteum, which was already thickened and lined with a new, soft and spongy osseous secretion. At each extremity of this long incision, I divided the parts transversely, so as to be able, by turning over the flaps on each side, fully to expose the seat of disease. I thus ascertained that the entire shaft of the tibia was mortified, the articular extremities alone remained healthy.

"I then proceeded, without delay, to separate the dead bone from the adjacent structures, and succeeded, not without difficulty, in extricating it completely.

"The consequences of this long and arduous operation were of a truly remarkable simplicity. The traumatic fever was extremely moderate, the suppuration, hitherto copious and fœtid, was speedily replaced by a healthy puriform secretion, and, extraordinary as it may appear, the young patient was able so early as the fortieth day, to rise and walk with crutches, as if he had merely been affected with simple fracture of the limb. An entirely new bone had been formed, and so complete was the restoration, that had I not preserved the shaft of the tibia, removed six weeks before, I myself could scarcely have credited the fact."

This bone, which Mr. Maisonneuve placed before the Academy,

is twelve inches in length, fifteen lines in thickness at its upper extremity, and eleven lines in diameter at its lower end. The three surfaces are smooth and compact in the lower two-thirds, and rugged and swollen in the remainder. The patient is now (five years after the operation) healthy and vigorous; the formerly diseased leg differs in no respect from the other, except by the scar. He can run, leap, or exercise as if he had undergone no surgical operation whatever, and the most careful inspection fails in detecting which leg was the seat of disease.

As Mr. Chaillou observes, this remarkable instance of restoration of bone suggests the query, how many patients may be found who will survive the operation? This is the question now awaiting solution, before the other and more generally adopted modes of surgical interposition are set aside.

ARTIFICIAL ANUS.—At the meeting of the French Academy of Medicine, March 13th, Mr. Velpeau related five cases of strangulated hernia, in which he had returned the perforated bowel into the abdomen with success. In the patients cured by this method, the eminent professor stated that the intestinal convulsion was healthy, and presented but a minute aperture. One case was followed by stercoral fistula, which closed spontaneously. Notwithstanding these felicitous results, Mr. Velpeau did not present as an example to be followed, the course he had adopted under a fortunate concurrence of circumstances which may not again be met with.

Mr. Velpeau, it may be seen, is but moderately partial to artificial anus. He conceives it much too lightly spoken of. In many instances when well established it closes spontaneously, but in many also it becomes an incurable infirmity, not to mention the disastrous occurrences which are occasionally observed before consolidation is effected. We should not slur over the disadvantages, or even the perils attendant upon the formation of artificial anus, and we cannot look upon this method as the final expression of surgical progress. . . . The precept of non-reduction is, unquestionably, that which is most applicable to the greater number of cases, and must continue to prevail until a careful inquiry into the instances of exceptional success, resulting from the opposite procedure, shall have thrown light upon the circumstances which may in such cases lead to a cure without resorting to the formation of artificial anus. . . . In case of operating, the procedure which Mr. Verneuil (*Gazette Hebdomadaire*, March 15, 1861,) conceives to be preferable, consists in the suture of both ends of the intestine, or of the margin of the perforation to the wound of the skin, the diseased portions being removed or not, as the case may require. As this plan would, however, increase the chances of permanency of the artificial anus, it would be advantageous to prevent, if not the formation of the spur—the

size of which depends upon the extent of the destruction of the intestine—at least the union of the mucous membrane of the intestine with the integument. For this purpose, Mr. Verneuil advises a margin, destitute of epithelium or epidermis, to be left between these parts, which may granulate, become gradually contracted, and finally bring about the occlusion of the abnormal orifice. Careful dressings, and, if necessary, superficial excisions, would doubtless be further conducive to this desirable result.—(*Championnière's Journal*.)

It is also stated in the same number of that *Journal* that Mr. Laugier has recently presented to the Academy of Sciences a patient, who was entirely relieved by a new operation for the cure of artificial anus after enterotomy. In this case, more than two-thirds of the excrement were still voided through the artificial aperture, several months after enterotomy had been most skillfully performed. Mr. Laugier's autoplasmic operation has effected a complete cure, which the sub-committee of the Institute is now called upon to judge of by inspection.

PUERPERAL CONVULSIONS.—The *American Medical Monthly* for May, contains an interesting lecture on puerperal convulsions, by Prof. T. Gaillard Thomas, from which we extract the following: Any one of these causes [a variety of centric and eccentric occasional causes] existing in sufficient degree in the non-pregnant state, would produce epileptiform convulsions, and existing even in less degree they would likewise do so in the pregnant, when the nervous system is in a plus state of excitability, and the reflex influences more than ordinarily acute. At the same time that I admit that any of these causes may produce puerperal convulsions, I wish with the utmost distinctness to state my belief that, in the vast majority of cases, poisoning of the blood by some of the constituents of the urine is the great cause of the seizures.

Dr. Thomas thinks that as the pregnant uterus rises in the abdominal cavity, it exerts a hurtful pressure upon the kidneys, preventing venous flow from them, produces congestion, and thus impairs their eliminative function. Hence an accumulation of some of the elements of the urine in the blood.

We cannot afford room to quote more of this judicious lecture, except some of the views on treatment, the indications of which are as follows:

1st. Check the convulsive action at once, and thus prevent death by asphyxia.

2d. Diminish vascular turgescence and excessive action, and thus remove the great liability to apoplexy and coma.

3d. Evacuate the uterus, if possible—because experience has proved that in the majority of cases the seizures will then cease, and because we thus remove pressure from the kidneys.

4th. Eliminate or neutralise the poison accumulated in the blood.

To accomplish the first of these indications, no means is at all comparable with the anæsthetic influence of chloroform. Blood-letting is, in my mind, far inferior to it in its results, much more unreliable, and accompanied by much greater dangers. Ether, from the stage of excitement which it produces, is not so applicable to these cases, and, in some instances, I have found its use entirely inadmissible, while chloroform has accomplished immediately all that I desired. If serious injury, such as effusion of serum or blood, has taken place in the brain, anæsthesia will accomplish, probably, nothing; but if it be resorted to early and fearlessly, its results will surprise you. . . .

If anæsthesia controls the convulsions, blood-letting should not be resorted to; should it fail to do so, it should then be taken into consideration, and decided upon by the same reasons which would govern such a decision concerning it in pneumonia or any other diseased condition.

Dr. Thomas then speaks of the necessity of evacuating the uterus as promptly as possible, and of eliminating the effete matters which the kidneys fail to remove, by increasing the action of other organs, especially the skin. He closes with some very important remarks, which we quote entire:

You may be struck by the fact that I recommend, in enumerating remedial measures, only very prominent and important ones, and leave many others which are ordinarily advised, as, for instance, assafoetida, valerian, camphor, the use of sinapisms, cold affusion, &c., &c., unmentioned. My reason for this is the belief that, ordinarily, perfect quiet, silence, and absence of light are more important adjuvants than they, and that the physician should studiously avoid disturbing his patient by doubtful means. Some years ago, to demonstrate the importance of such quietude, I immersed a number of half-grown frogs in a jar of water which contained strychnine. They were, after a little while, seized with violent convulsions, and removing them, I placed them in the presence of the class, under a bell jar. As long as all was quiet, the little animals were free from spasms, and seemed instinctively to be very still; but no sooner did I rap upon the glass or remove it and blow very gently upon them, than they would be violently and repeatedly convulsed. I once heard Dr. Marshall Hall say, that having poisoned a young terrier with this drug, he could smooth his hair down without causing spasms, but every time that he passed his hand in a contrary direction and rubbed the hair upward, convulsions would take place. This he addressed to a house physician at one of the hospitals in this city, who was at the time applying mustard and friction to a patient who was suffering with uræmic convulsions.

LABOR OBSTRUCTED BY HYDROCEPHALIC HEAD.—Prof. Simpson advises that, when labor is obstructed by a hydrocephalic head, we

should not perforate the cranium, and to a certainty destroy the child, but should tap it with a trochar; thus performing in utero the operation most calculated to be of service to it in mundo.

Again, when it is a footling case, and the hydrocephalic head cannot be born, he advises, instead of using great traction or endeavoring in this awkward situation to puncture with a trochar, to cut across the spine, when the fluid will immediately find exit. (*Correspondence of American Medical Times.*)

BIBLIOGRAPHICAL NOTICES.

A Practical Treatise on the *Ætiology, Pathology and Treatment of the Congenital Malformations of the Rectum and Anus.* By WILLIAM BODENHAMER, M. D. New York, 1861: S. S. & W. Wood.

Congenital vices of conformation constitute many of the most unfortunate disorders to which the human frame is liable. Some of these are incurable, either causing early death or allowing life to be prolonged in suffering and deformity, (*Spina Bifida, Extrophy of the Bladder, Deformities of the Limbs, Phocomèle, &c.*) Others are curable, but demand for their relief the highest resources of the medical art, (*Hernia, Cleft Palate, Hare Lip, Club Foot.*) The congenital malformations of the rectum and anus include representatives of both these classes. Although of not infrequent occurrence, they are not sufficiently numerous to permit the general possession of experience in their management among practitioners; so that a practical treatise on the subject, embodying the requisite details of diagnosis and treatment, is of great value to the profession. The work before us has this merit: is concise, full and practical; and in addition to this claim, possesses that of being the only work on congenital malformations of the rectum and anus which "has ever been published in this or any other country."

After a short but satisfactory explanation of the embryological conditions on which these malformations depend, the author divides them into nine species, each of which is in turn described, with such directions for treatment as the present state of science can command.

1. In the first species there is simple narrowing of the anus.
2. In the second, complete occlusion by a membrane.
3. In the third there is no anus whatever, the rectum terminating in a cul-de-sac.
4. In the fourth the anus is normal, but the rectum deficient or obstructed.

5. In the fifth the rectum terminates *externally*, by an abnormal anus, located in some unnatural region.

6. In the sixth the rectum opens on an internal surface, as the bladder or vagina.

7. In the seventh the rectum is normal, but the ureters, vagina, or uterus, open into it.

8. In the eighth the rectum is entirely wanting.

9. In the ninth the rectum and colon are both absent, and an abnormal anus exists.

The study of these malformations is aided by plates, fourteen in number, representing also the operative detail of many cases.

A full bibliography and index add to the value of the volume.

A MANUAL OF MILITARY SURGERY; OR, Hints on the Emergencies of Field, Camp and Hospital Practice. By S. D. Gross, M. D., Professor of Surgery in the Jefferson Medical College of Philadelphia. *J. B. Lippincott & Co. Philadelphia.* 1861.

This little manual, prepared for the present occasion by Professor Gross, has been received from the publishers just as we go to press.

In view of the importance of the subject it treats of, we have taken time to read it through, in order to be enabled to speak of it, with knowledge, to the large band of military surgeons just now called to new and untried duties. There are few medical men in the United States who have any experience of the multifarious and onerous duties of a military surgeon. This little book, small enough to be carried in the pocket, contains a concise view of them, and sensible observations on practical military surgery—describing the kind of injuries likely to be met with, with the most approved methods of treatment, presupposing, of course, a knowledge of established surgical principles, which cannot be discussed in such a work as this.

In consideration of the general want of experience in this branch of practice, the rarity of works on military surgery, especially within a generation past, and the high reputation of the author, we anticipate a ready sale for this little volume. Our readers will gather a better idea of the scope of the work, from its table of contents, which we copy: Historical Sketch of Military Surgery; Importance of Military Surgery; Qualifications and Duties of Military Surgeons; Medical Equipments, Stores and Hospitals; Wounds and other Injuries; Amputations and Resections; Ill Consequences of Wounds and Operations; Injuries of the Head, Chest and Abdomen; Diseases Incident to Troops; Military Hygiene; Disqualifying Diseases; Feigned Diseases; Medical, Surgical and Dietetic Formulæ; Regulations for the admission of Physicians into the Medical Staff of the Army.

EDITORIAL.

We publish in this number of the *JOURNAL*, two articles in which testimony is given to the therapeutic value of nutritive injections. We have thought that this resource of our art might be rendered more efficient, by applying to it more closely the teachings of the physiology of digestion.

The action of the gastric juice upon the ingredients of our food, resembles very nearly that of prolonged boiling in water; so that we can artificially aid gastric digestion, and even render it unnecessary. But some of the most important nutritive substances, (certain albuminoid substances and the fats,) require an alkaline digestion, in which, as Bernard has shown, the pancreatic juice exercises a very efficient influence. He has also shown that an artificial pancreatic juice may be made, (by macerating the finely divided gland in warm water,) which resembles the true pancreatic juice in its physical and physiological characters, which are almost alike in all the higher animals. We may reasonably suppose that if an artificial pancreatic juice were introduced with the nutritive injection, it would thereby be rendered better fitted for absorption. Not only would the fats be emulsionized, and thus prepared for entering the lymphatics of the rectum and colon, and the amylaceous matter transformed into sugar, but the albuminoid substances would be elaborated. The unstable molecular constitution of pancreatine, causes it to exert a catalytic action upon albuminoid matters, which liquifies them, and, it is possible, renders those already liquid more readily assimilable and more nutritious.

Like rennet, sweet-bread may be kept for any length of time in alcohol, without losing its physiological properties. The glands, taken from the alcohol, finely divided, and macerated in water, yield a liquid which emulsionizes the fats, converts starch into sugar, and causes the transverse striations of muscular fibre which have resisted the action of boiling water or the gastric juice, to disappear. This liquid we propose adding to the nutritive injection.

We are not aware that this plan of sustaining the system has ever been subjected to experiment. It is without danger, exceedingly simple, and certainly worth the trial.

MILITARY SURGEONS.

Owing to the irregular manner in which surgeons have been appointed to volunteer regiments, incompetent persons have in

several instances been commissioned to this very important post. In some of the states, the field officers of the regiment have the appointing of their own surgeons, by a misconception of the responsibilities that rest upon the office, and of the importance that the qualifications of the officer should be of a high order.

An army surgeon requires to have a far greater range of attainments than is expected of a general practitioner. There is no examination to which members of the profession are anywhere subjected which at all approaches in severity that for an assistant surgeoncy. And it is strict with good reason, when we know the variety of responsibilities which rest upon the medical officer in service. Already many questions have arisen in Washington in regard to the sanitary condition, present and prospective, of the troops, which call for able and well educated men to decide them; and not only the daily comfort of our brave volunteers, but the successful prosecution of the war, may depend upon the competency of the medical officers.

But even before high general scientific attainments, it is especially desirable that the military surgeons should be *practical surgeons*, if possible—a point that has been very often totally disregarded. In every state, a great number of medical men have applied for surgeoncies, and there is no doubt that well-qualified men can be obtained, enough to supply all the regiments. But the best men should be selected by a competent Examining Board, as is done in New York, and in this state. Before the Medical Board was appointed in Massachusetts, the regiments which marched took with them the surgeons of their peace establishment, appointed often without any regard to their medical qualifications. Indeed, according to a writer in the Boston Medical and Surgical Journal, in one regiment now at Fortress Munroe the assistant surgeon is a Boston apothecary! If this is the case, no time should be lost in sending him home. The medical staff is small enough, with two good surgeons to serve eight hundred men in actual service. We earnestly hope that other states will follow the example of New York, as Massachusetts has already done, and see that a Medical Examining Board is established, before which all candidates for surgeoncies must pass. The necessity of such a regulation has been pointed out by other medical journals, and we shall be glad to find, before our own appeal can reach our readers, that the evil has been remedied. Excellent men have been appointed to some of the regiments that have gone to the seat of war, for which we may thank our good fortune, as the appointing officers cannot be considered capable of passing correct judgment upon their applicants. In future we trust the safety of our armies may not be left to any such chance, but as much care be exercised in selecting surgeons as in selecting brigadiers.

Since the above was written, the War Department has ordered

that all regimental officers, from Colonel down to Second Lieutenant, shall be appointed by the Governor of the state from which the troops are raised. Surgeons will therefore no longer be appointed by Colonels, but the responsibility resting with the Executive Department of the state, we may reasonably expect that a Medical Board will be constituted for the examination of applicants. The legislature of Pennsylvania has recently passed a law to this effect.

MORAL SUPPORT OF QUACKERY.

A physician of Davenport, Iowa, Dr. Ignatius Sanger, was expelled from the Scott County (Iowa) Medical Society, more than a year ago, for some infractions of the laws of the Society and of the Code of Ethics of the American Medical Association. It was for the encouragement of quackery, although we are not able to refer to the particulars of the case. The gentleman had previously been appointed a delegate to the American Medical Association, but after expulsion from his County Society, was, of course, unable to obtain a seat in the Association. Some effort was made by his friends to bring the subject before the Association in June last, but it was not permitted—being a matter entirely in the hands of the County Society which he had represented.

We have been much surprised, considering these well known facts, to see Dr. Ignatius Sanger regularly associated with the Boston Medical and Surgical Journal; and for several months we have been on the point of calling the attention of the editors of that periodical to the inconsistency of giving that degree of moral support to a condemned supporter of quacks and quackery, which he receives from appearing regularly as the contributor of weekly meteorological observations for the Journal.

AMERICAN MEDICAL ASSOCIATION.

The annual meeting of this Association at Chicago, which should have been held this month, was postponed by the committee of arrangements to 1862, on account of the state of the country. We received the announcement too late to make it in our May number, but presume those of our readers who were intending to be present at the meeting learned the fact of the postponement from other sources. The Association has many active members in the southern states, and we cheerfully acquiesce in the suspension of the meetings of the Association, until the reestablishment of law and order there shall have permitted our southern brethren to give their attention to medical rather than military science.

MEDICAL NEWS AND MISCELLANY.

THE GREAT PRIZE IN SURGERY.—The numerous physiological facts showing that the periosteum possesses the faculty of producing bone, and some remarkable surgical cases proving that very extensive portions of bone may be reproduced by means of periosteum, which has been preserved, have induced the French Academy of Medicine to call renewed attention to the study of this subject by proposing as the subject for a prize essay, "The Preservation of Limbs by the Preservation of the Periosteum." The Academy allots the sum of 10,000 francs as a mark of the importance it attaches to the subject, and the Emperor having doubled the prize, it now stands at 20,000 francs, (\$4,000.)

INSPECTOR OF DRUGS.—The Philadelphia College of Pharmacy has addressed a memorial to the proper authorities at Washington, asking, in consideration of the importance of having the office of Inspector of Drugs filled by a well-qualified person, that no appointment to the office at the port of Philadelphia be definitely concluded, without the official approval of the College, or of some competent medical body selected for the purpose.

ILLINOIS BOARD OF MEDICAL EXAMINERS.—Illinois is another state that has appointed a Board of Physicians and Surgeons to examine applicants for surgeoncies of the volunteers. The Board was appointed, as we learn from the Chicago Medical Examiner, at an early date, and assembled at Springfield on the 26th of April. The candidates were examined especially in Surgical Anatomy, Practical and Operative Surgery, Practical Medicine and Hygiene.

Thirty-seven were examined, of whom nine were found qualified for the office of surgeon, and furnished with certificates; and twenty-one were furnished with certificates of being qualified for the office of assistant-surgeon.

ARMY AND NAVY INTELLIGENCE.—Surgeon C. H. Lamb has been ordered to report to the Commander of the Department of Washington for duty as Medical Director and Purveyor for the troops (regulars and militia) in that Department.

Surgeon J. F. Hammond and Assistant Surgeons T. M. Getty and D. L. Magruder have been assigned to duty in the Surgeon-General's office.

Assistant Surgeon R. H. Alexander has been assigned to duty at the Washington Arsenal, D. C.

SURGEON-GENERAL OF THE UNITED STATES.—Surgeon Finlay has been appointed to the office of Surgeon-General, lately made vacant by the death of Thomas Lawson. The pay of the Surgeon-General is wretchedly small, and unworthy of the nation. It is only \$2,740 a year.

The monthly pay, including everything of army surgeons, of different grades, is as follows:

Surgeon-General,	- - - - -	\$228 00
Surgeon of ten years' service,	- - - - -	228 00
" of less than ten years' service,	- - - - -	187 00
Assistant surgeon of ten years' service,	- - - - -	173 50
" of five years' service,	- - - - -	137 50
" of less than five years' service,	- - - - -	120 83

THE NIPPLE AND ITS AREOLA, ANATOMY AND PATHOLOGY.—Dr. Joseph Duval—a Frenchman, of course—has published a quarto of two hundred and thirty-five pages on this subject; a work which must be exhaustive—though we are not able to speak from personal examination of it. Mr. Stoltz, of Strasbourg, uses for excoriations and chaps, applications of nitrate of silver, or a liniment of Peruvian balsam, rose-water, oil of almonds, and gum tragacanth. Dr. Duval thinks nothing equal, for excoriations, to cauterization with solid nitrate of silver. We find the compound tincture of benzoin an excellent application.

APOPLECTIFORM CEREBRAL CONGESTION.—This subject has been the occasion of a very long and interesting discussion at several meetings of the Academy of Medicine, since its introduction by Mr. Trousseau—as reported in our May number. We shall publish the gist of the debate in a future number.

MR. CLAUDE BERNARD has been elected to a vacancy in the section of anatomy and physiology, in the French Academy of Medicine, by a vote of seventy-two to seven.

CASEIN EJECTED FROM THE STOMACH.—Dr. Wm. B. Atkinson presented for the inspection of the Philadelphia County Medical Society, a singularly shaped mass, which had been ejected from the stomach of a woman, aged thirty-five, whose general health had been good, but for a few days previous had suffered with an unpleasant feeling, as if from indigestion. One morning she felt a sudden fullness about the throat, and this mass had been thrown up. It was six or seven inches long, by half an inch to an inch in width. It was rounded, as if by passing through a narrow cavity. A careful microscopical and chemical examination proved it to be a mass of casein. (*Medical and Surgical Reporter.*)

BOOKS RECEIVED.—Report on Epidemics and Endemics. Part 2. By O. C. Gibbs, M. D.

EXCHANGES RECEIVED, (May.)—North American Medico-Chirurgical Review. Medical and Surgical Reporter. American Medical Times. American Medical Monthly. Journal of Materia Medica. Boston Medical and Surgical Journal. Maryland and Virginia Medical Journal. Lancet and Observer. Cincinnati Medical and Surgical News. Journal of Practical Medicine. St. Louis Medical and Surgical Journal. Nashville Journal of Medicine and Surgery. Chicago Medical Examiner. Chicago Medical Journal. San Francisco Medical Press.

THE
BERKSHIRE MEDICAL JOURNAL,

EDITED BY

WM. HENRY THAYER, M. D., AND R. CRESSON STILES, M. D.

"Ore trahit quodcumque potest atque addit acervo."

VOL. I.

JULY, 1861.

No. 7.

PROCEEDINGS OF SOCIETIES.

MASSACHUSETTS.

BERKSHIRE DISTRICT MEDICAL SOCIETY.

The Society met at Pittsfield, on Wednesday, May 22d; Dr. C. T. Collins, President, in the Chair. The Secretary being absent, Dr. H. M. Holmes was appointed Secretary, pro tem.

The prevailing epidemic of scarlatina, following in the wake of diphtheria, and presenting anomalous forms, apparently from a complication with that disease, was discussed by Messrs. Brewster, Smith of Pittsfield, Parks, Root of Stockbridge, and Lucas.

Dr. Brewster had treated cases of scarlatina in which the rash was darker and more isolated than in its ordinary forms, accompanied with exudation on the fauces and great prostration—had used the warm bath, diaphoretics and stimulants.

Dr. Smith's cases had presented such characters that in the absence of the rash he would have called them cases of diphtheria—they were attended not by a pultaceous pharyngitis, but with a membranous formation on the tonsils and pharynx; had used tonics, stimulants, and chlorate of potash, with favorable results.

Dr. Parks had employed belladonna, as an anodyne, and chlorate of potash.

The testimony of the society as to the supposed prophylactic powers of belladonna against scarlatina, was that the drug possessed no such virtue.

Dr. Root had seen rheumatism supervening on cases of scarla-

tina which presented the pharyngeal symptoms and prostration of diphtheria.

The treatment of rheumatism was discussed by Messrs. Smith, Evans, and Holmes.

Dr. Smith had used a mixture of iodide of potassium and colchicum, (Tinc. Colchici a fluid drachm, Iodid. Potass. grs. xv, every six hours,) with great benefit, in cases in which the alkaline treatment had proved of no utility; treated topically by bandaging and alkaline lotions.

Dr. Evans employed the muriate of ammonia in doses of thirty grains, with great success; did not believe that lactic acid was the cause of the disease, as he did not believe that fibrin was a cause of inflammation; thought the liability to metastasis gave evidence that nervous disorder was an important element in the disease—administered the muriate of ammonia not as an alkali, but as a nervous stimulant; had derived great benefit from bandaging.

Dr. Holmes also spoke favorably of the employment of iodide of potassium and colchicum, with tonics, in the treatment of rheumatism. *Dr. H.* had treated uncomplicated asthma, with iodide of potassium, with favorable results.

Drs. Duncan and Collins recommended the inhalation of ether during the paroxysm. *Dr. D.* recommended Nichols' and Squibb's preparations, particularly that of iodide of lime, as a substitute for iodide of potassium.

Dr. Cady reported a case of a lad eight years old, attacked first with diphtheria, next with rheumatism upon which cardiac disease and dropsy had supervened. Now convalescent under digitalis and tonics.

Dr. Lucas recommended Tinc. Lyttæ, with iodide of potassium as a diuretic in anasarca from cardiac disease.

The Society adjourned to dine at the Berkshire Hotel.

ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY.

In consequence of the distraction occasioned by the war, as well as of the absence of the usual solace of cold salmon and lemonade, the Fellows of the State Society did not come up on their annual pilgrimage with that alacrity that has hitherto marked this great Æsculapian feast. We do not remember to have seen at any annual meeting for many years so meagre an attendance. Notwithstanding, however, the lack of numbers, there was fortunately no corresponding deficiency in interest in the proceedings. The meeting took place at ten o'clock at the Marlborough Chapel, the

President, Dr. John Homans, in the chair. It appeared from the record of the Secretary that forty-three persons had joined the Society since the last annual meeting, and fifteen had deceased. The papers presented were, one on zymotic diseases, by Dr. E. Cutter, of Middlesex East District; and one on the relief of pain by subcutaneous injections, by Dr A. Ruppaner, the reading of which was deferred in consequence of the absence of the author.

Dr. Lincoln exhibited an enormous tumor, which had been recently removed at a post-mortem examination from the abdomen of a male patient under his care, a full report of whose case will shortly be published.

Among the other items of business the following resolutions, presented by Dr. Jarvis of Dorchester, setting forth the importance of the formation of a sanitary commission, were adopted:

Resolved, That the Massachusetts Medical Society petition the Legislature for the establishment of a Board of Health and of vital statistics, for the following purposes:

First, To have the general oversight of the sanitary interests of the Commonwealth, as the Board of Education and Agriculture have over the interests intrusted to their supervision.

Second, To have charge of the registration law of births, marriages and deaths, and to prepare the annual report.

Third, To have charge of the State census, and to make a decennial report.

Fourth, To have authority to visit all the public medical and sanitary charitable institutions in the Commonwealth and elsewhere, which receive patients from this State, and make a general and annual report of their condition to the Legislature.

Resolved, That every member of the Medical Society be requested to use his influence with the Senators and Representatives from his district to persuade them to support this measure in the Legislature.

Resolved, That the several district societies be requested to take action in behalf of this measure, and use their efforts for its adoption.

Drs. J. G. Metcalf, George C. Shattuck, and George Choate were appointed a committee on scientific communications.

At one o'clock the annual address was delivered by Dr. Henry C. Perkins, of Newburyport. The subject was the Duty of the Physician and Surgeon on the Day of Battle or in War, and we much regret that the orator could not have had a larger audience to profit by his practical teachings. At its close, on motion of Dr. Hunt, of Middlesex, seconded by Dr. Spofford, of Essex, it was voted that the thanks of the Society be presented to Dr. Perkins, for his "eloquent, patriotic and appropriate address."

At the meeting of the Councillors which took place on the evening previous, thirteen only out of seventeen district societies were represented. The usual business was transacted, consisting of reports of the Treasurer and Standing Committees, and the appointment of the Standing Committees, and the election of officers for the ensuing year. From the report of the Treasurer, Dr. A. A. Gould, it appeared that the outsets of the Society during the past year had been \$18,327 20, and the income \$17,190 55, leav-

ing a balance of \$1,136 65 due the Treasurer. In accordance with the vote of the Council last year, the sum usually devoted to an annual dinner is to be devoted to the payment of the debt; added to which, the interest on the legacy of \$10,000 will greatly diminish it.

The officers of the last year were reelected. Dr. Henry J. Bigelow was chosen anniversary chairman, and Dr. Henry I. Bowditch was appointed to deliver the next annual address.

On the whole, our medical anniversary, notwithstanding the absence of the important part usually performed in Faneuil Hall, passed off with credit to all concerned. We trust, however, at the close of another year, the clouds which now threaten us will have rolled away, and that at our next annual meeting the sunlight of peace shall again have dawned upon our land. (*Boston Med. and Surg. Journal.*)

NEW HAMPSHIRE.

NEW HAMPSHIRE STATE MEDICAL SOCIETY.

The seventy-first annual meeting of the New Hampshire State Medical Society, was held on the 4th and 5th of June, in the Court House at Concord. J. C. Eastman, President, in the Chair.

The records of the last annual meeting were read and approved.

The following named gentlemen, recommended by the Council, were unanimously elected Fellows of the Society:

Edward Aiken, Fitzwilliam.
William Darling, Sutton.
Charles B. Willis, Salisbury.
James Moore, Concord.
Sylvester Campbell, Sanbornton.
George H. W. Herrick, Enfield.

J. M. Harper, Canterbury, and Jason H. Ames, Bradford, were elected honorary members.

A committee of five was voted, to examine patients who should present themselves for advice, and Drs. Smalley, Stackpole, Sargent, Josiah Crosby, and Fitch, were appointed to that Committee.

A Committee of Nomination was voted, consisting of one from each county. The Chair appointed the following gentlemen: Drs. Shackford, Crombie, Roberts, Moulton, Twitchell, Swett, Clough, Carr, Bunton and Tenney.

A committee was appointed to audit the Treasurer's accounts, consisting of Drs. Hill, Whittemore, and Bean.

At 12 o'clock, the President read the Annual Address. The subject was Medical Education, and especially the great advantage of general mental culture before the commencement of the medical course of study.

Dr. Twitchell called attention to the subscription on foot for a monument to John Hunter in Westminster Abbey, and presented a paper for subscriptions.

A committee was appointed to petition the legislature at the coming session to make vaccination a condition of admission to any public school in every town where the ordinance should be adopted by the town. The committee consisted of Drs. Thayer, Robinson, Davis, Carr, and Wight.

Voted, To instruct the Secretary to insert the name of Dr. Fernald in the printed list of the Presidents—accidentally omitted in 1854.

Voted, That Drs. Fitch, Fernald and Carter be a Committee to make honorable mention of Fellows who have died within the last year.

Voted, That the Treasurer is hereby instructed to collect five dollars of all Fellows who are in arrears to that amount or more; that the balance of the dues of such Fellows be remitted, and their membership continued; and also that those persons who have hitherto lost their connection with the Society by reason of non-payment of their assessments, be notified by the Secretary that the payment of the above sum will reinstate them in the Society.

The Committee on Nominations reported a list of candidates for the offices of the Society for the ensuing year, who were unanimously elected, by ballot—as follows:

President—E. K. WEBSTER, Boscawen.

Vice-President—C. P. GAGE, Concord.

Secretary—A. A. MOULTON, Concord.

Treasurer—L. M. KNIGHT, Franklin.

Councillors—A. A. Moulton, L. M. Peabody, L. C. Bean, T. H. Currie, John Clough, C. H. Shackford, J. C. Hanson, W. H. Thayer, S. Cummings, N. Tolles, J. L. Swett, A. F. Carr, J. F. Hall, J. W. Lougee.

Censors—John Wheeler, H. B. Fowler, Nathan Call, G. W. Martin, Adams Moore, Valentine Manahan, Luke Miller, E. H. Davis, T. J. W. Pray, D. S. Prescott, Nahum Wright.

Committee on Surgery—W. H. H. Mason,

On Practical Medicine—James B. Abbott.

On Epidemics—W. H. Thayer.

On Obstetrics—F. P. Fitch.

On Publication—A. A. Moulton, W. W. Brown.

On Arrangements—L. M. Knight.

Delegates to Dartmouth College—S. W. Roberts, L. M. Peabody.

Dr. Josiah Crosby exhibited a mode of counter-extension in fractures of the lower extremity, by an apparatus applied to both limbs, so that the sound limb should take the bearing of the counter-extension rather than the perineum.

Sixty members dined together at the Eagle Hotel.

At 3 o'clock, Dr. Twitchell read the Report of the Committee on Surgery, which included the subjects of Tracheotomy, Recurrent Fibroid Tumors, Compound Fracture of the Cranium, and Subcutaneous Injections.

Dr. Robinson read the Report on Practical Medicine, including

the subjects of Rheumatism, Amaurosis dependent on Spinal Irritation, and Diphtheria.

Dr. Davis read the Report on Obstetrics, consisting chiefly of the subjects of Placenta Previa, Puerperal Convulsions, Instrumental Labors, and Laceration of the Perineum.

Dr. Moulton delivered an oration on Vital Force.

A committee was appointed to ascertain the present condition of the Bartlett Fund.

On the second day, June 5th, the Society met at 8 1-2 o'clock. The time was chiefly occupied with miscellaneous discussions.

ORIGINAL COMMUNICATIONS.

ART. XIX.—*Amaurosis from Spinal Irritation; with cases.* Extracted from a Report on Practical Medicine, made to the N. H. Medical Society, June 4, 1861. By A. H. ROBINSON, M. D., Concord, N. H.

About two years ago, my attention was called to the case of two young ladies—sisters—who, while attending school at an institution in this county, were both attacked with symptoms of *amaurosis*: which became so severe as to force them to leave school, and live secluded from the light. At the time of my first seeing them, these girls had been some months under treatment, and their health had in a measure improved. *The lower cervical and upper dorsal vertebrae in each were exceedingly tender on pressure*; and as this tenderness abated under local treatment, the pain in the eyes and the intolerance of light subsided: and as the soreness of the spine increased, so did the amaurotic symptoms: and thus the one appeared to be the mark of the severity of the other.

A few months after seeing these young ladies, my own son, a lad of eleven years of age, attending one of the schools in this city, began to complain seriously of his eyes. They “watered” badly, and at times flashes of light darted through them, while the words of his book so ran together that he could not read. The intolerance of light was such as to prevent his enduring a bright sun, or the light of the gas in his room: and the pain in the eyes was so severe, even in the dark, as to prevent his sleeping. His appetite failed, he became emaciated: and the somewhat dilated, but mobile pupils, the drooping eyelids, the pallid countenance, and, in short, the general aspect of the case was so much like the two first, that from curiosity I examined his spine, and found in the

same place the same excessive tenderness as in the others. I then took him from school, forbidding his looking at a book, and kept him secluded from all bright light. I applied croton oil to the spine, and gave him blue mass as an alterative, while he took thrice, daily, lupuline and rhubarb, with super-carbonate of soda. This was the main medicinal treatment, and as the irritation of the spine began to abate, the amaurotic symptoms diminished. He could not, however, for nearly or quite a year, read fine print, without the aid of glasses suitable to persons fifty years of age, although words printed in a large, coarse type were readily made out. In about fifteen months after commencing treatment, my son returned to school, and now he can read the finest print without difficulty, and without the aid of glasses, has no pain of the eyes, no unnatural appearance of the countenance, and is able to maintain his rank in his class with fair credit to himself. I consider him cured of his amaurosis.

About ten months ago, I was called to another boy, fifteen years of age, a student in one of our schools, who was affected almost precisely as the last, with the same pallid countenance, the same drooping eyelids, the same dilated but mobile pupils, and uninjected eyes, and the same tenderness of the vertebrae of the neck and back. I have treated him thus far in the same way as the first case; and I trust, with a result not altogether unfavorable. By the advice of a friend of the family, and with my acquiescence, this lad visited one of our large cities, and consulted the head of an eye infirmary, to whom, by request, I wrote a short history of his and the other three cases. I am not aware that any notice was taken of my communication, any farther than to occasion the casual remark to the lad, that "he (I) appears to understand the case." This patient, when away, was under treatment, (certainly unlike what he received at my hands,) for several weeks, when he returned much as he left; at any rate no better, and again was put under my care. His health is now very greatly improved, although he has not entirely recovered. (It is perhaps proper to state in reference to this last case, that since the report was written he has been laboriously at work in the open air, and has omitted his medicine, and as a sequence, if not a result, the pain has returned to the eyes.)

Again, during the last winter, I was called to a fifth case of amaurosis; this last supervening upon *injury* to the spine. The symptoms were much the same as in the other four cases; and the treatment, thus far, has been similar. The prognosis in this last case is unfavorable.

I have reported these cases, because, aside from the special interest attaching to them, the connection between irritation of the spine and amaurotic affection of the eyes has seldom, if ever, been alluded to. I have not, as yet, been able to meet with physicians who have noticed it. Lawrence does not allude to it; and Prof.

Jacobs, in summing up the causes of the disease, does not seem to recognize spinal irritation as one of those causes ; although they both speak of the complaint as originating from a depressed condition of the vital powers. There is, indeed, no direct connection between the retina and the spinal nerves ; and at first blush, it might seem unreasonable to attempt to account for amaurosis from such an agency ; and yet the phenomena of the complaint, as exhibited in the cases related above, and the result of the treatment adopted, would seem to prove that there is sufficient ground to justify such attempt. Besides, in accordance with the known laws of the nervous system, it would not be difficult to trace the complaint upon the hypothesis supposed. The stomach and adjacent organs would become first deranged, producing more or less depression of the system ; then, by reflex action the base of the brain, with which the optic thalami are so intimately and extensively blended, receives the morbid influence, which is transmitted along the thalami and optic nerves to the expansion of the retina—and amaurosis is the result. I consider the disease as simply a functional derangement, and allied in its character, to other paralyzes, produced by functional derangement. On this latter subject, did time and space permit, I should like to make some remarks, and relate some cases, which to me seem of great interest, as showing the effects of derangement of particular organs, as manifested upon remote parts of the system—but I forbear.

ART. XX.—*Surgical Cases, with Remarks.* Reported to the New Hampshire Medical Society, June 4, 1861. By GEORGE B. TWITCHELL, M. D., Keene.

Tracheotomy. A child of Dr. Perkins, of Marlow, aged about eighteen months, on the 25th of June last, drew a peanut, or a portion of a nut, into its larynx. Great dyspnœa followed at once, and the foreign body could be distinctly heard by Dr. Perkins, playing up and down in the trachea, causing much dyspnœa when it was drawn up into the larynx, with comparative relief when it fell back into the bronchi.

I saw the patient on the afternoon of the 26th, twenty-four hours after the accident. She was asleep in her cradle, respiration considerably accelerated, with some crepitus, which seemed principally confined to the trachea ; skin cool, pulse but slightly changed, and appetite good. I learned from Dr. Perkins that the foreign body had not moved for some hours. From the difficulty of examining the chest, on account of the restlessness of the patient, I could not decide in which lung the foreign body was

lodged ; but had no doubt that it was lodged in one of them. The only course to be pursued appeared to me to be to open the trachea. I hesitated only because there had been no movement of the foreign body for some hours, and it was possible that it had become too firmly impacted in some small bronchus to be dislodged, thereby rendering the operation fruitless. But after conferring with my friend, Dr. Thayer, I decided to operate—which I did, as follows, assisted by Dr. Thayer, and Messrs. Gleason and Hanks, medical students :

The patient was first thoroughly etherized, and then placed upon a table, with shoulders raised and head dropped backward, making the skin tense over the trachea. An incision was then made in the median line through the skin and superficial fascia, the muscles carefully separated, and the trachea reached without any vessel being injured which gave the least trouble ; the child all the while breathing quietly and making no resistance. After the slight oozing from the wound had ceased, I opened the trachea with a scalpel, cutting from below upward, two of the rings. The air immediately rushed out through the opening, but did not bring the foreign body with it. I tried to excite coughing by irritating the trachea and bronchi with a probe, but to no purpose. Various other methods were resorted to, such as slapping the chest, raising the trunk and lower extremities ; and after spending half an hour in these fruitless attempts, I determined to trust the case to nature, keeping the wound in the trachea open with hooks fastened around the neck. The wound was in the meantime held open with blunt hooks. At this moment, the child partially arousing—the ether having been discontinued—struggled and coughed ; the nut flew up to the wound, but was too large to escape. I attempted to seize it with forceps, but it was drawn back into the bronchi. After some time it was again driven up, and failing to pass, was again drawn down. I immediately divided another ring of the trachea, and with my probe passed upward irritated the glottis, which immediately excited a cough, and the nut, (which proved to be the half of a large pea-nut,) was driven out of the opening with a force which threw it half across the room.

The wound was closed with adhesive straps, and the child placed in its cradle, where, in less than fifteen minutes, it was in a sound sleep, breathing quietly, without the slightest rattling. It recovered without a bad symptom.

The result of this operation, and the results of two other cases of foreign bodies in the trachea, which have come under my observation, have taught me the importance of an early operation, and the great danger of delay.

In one of the cases referred to, I could not prevail upon the parents to consent to an operation until it was evident that the child could not live much longer, unless the obstruction was removed. I then opened the trachea, but the foreign body could

not be dislodged, and the child died two days afterwards. An autopsy disclosed a kernel of corn firmly imbedded in one of the larger divisions of the bronchi, and solidification of a large portion of the same lung. An early operation would doubtless have saved the child.

In the other case, I was not consulted till three weeks after the bean had entered the trachea, at which time there was so great inflammation of the lung that I could not advise an operation. The child died two or three days afterward; and living out of town, I got no autopsy. I learned from the family that the bean could be heard to move freely up and down for several days after it entered the larynx, and at times the child was nearly suffocated. This child also might have been saved by an early operation.

There are two points of interest to me in the case reported. First, the rough breathing, (apparently in the trachea,) which ceased immediately on the removal of the nut from its lodgment in the bronchus, and did not return. The other point is that coughing was produced at once by irritation of the glottis, and much less promptly and violently by passing the probe downward into the bronchi. I should hope by irritating the glottis to excite respiration when, during the operation of laryngotomy or tracheotomy, respiration is not established immediately upon the opening of the tube; not to the neglect of artificial respiration, but to be tried while preparations for artificial respiration are making.

Recurring Fibroid Tumors.—Mrs. S., of East Jaffrey, sent for me at the suggestion of Prof. Albert Smith, in October, 1850, to remove a tumor from her left breast. I found a large tumor invading the whole gland, the veins large and ramifying over it, as in fungus hæmatodes, the nipple not retracted, lancinating pain, pulse quicker than in health; in fact, every indication of malignant disease, except emaciation—the patient being a large, fleshy and apparently healthy woman.

Upon removal of the tumor and examination, I had no doubt that it was encephaloid; and my prognosis was that the disease would return either internally or externally, and my patient be dead within two years.

The history of the case, as obtained from the patient, is this: When six years old, she received a blow upon her breast from a ram's horn, followed by great pain, considerable swelling and discoloration, which soon subsided almost entirely, leaving but a small tumor, about the size of a walnut, which was very hard but without pain or tenderness, until about a year after her marriage, forty-four years after the receipt of the injury. At this time,—when fifty years old,—she was thrown from a sled, striking upon her head, bending her neck forward, striking her breast with her chin. The injury seemed to be confined to the breast, which was very painful for some time after the accident. The tumor com-

menced growing immediately, and increased rapidly, so that at the time I first saw her, which was eight months later, the whole breast was involved, and presented the appearances above described. As already said, her health was good, she had no cough nor other indications of visceral disease; but fearing that ulceration would soon take place, with troublesome, if not fatal hæmorrhage, I decided to remove the entire gland. This was done in the usual manner. The patient lost considerable blood, as the diseased gland was nourished by large arteries. She was left in the charge of Dr. Smith, under whose skilful management she progressed favorably, and although there was not, as I had hoped, union by the first intention, but rather extensive suppuration, the wound healed entirely in about five weeks, and the patient felt perfectly well.

The mass removed weighed four pounds and fourteen ounces. Some parts of it had almost a scirrhus hardness, whilst other parts were soft, having a medullary appearance, with here and there a cyst containing a gelatinous matter; but in no part did I find true pus, though parts of the structure seemed entirely broken down. The whole gland seemed to be involved, and so changed that it was impossible to distinguish it from the surrounding tissue, which was also involved with it in the disease.

The patient remained well, without pain or other symptom, till the early part of September, 1852, when she first noticed a small tumor under the cicatrix, which increased rapidly, but without pain, until the 27th of October, when she presented herself again to me, and it had reached the size of a large orange. I removed this tumor, which had the same general characters with the first one. The wound healed without any untoward symptom, and the patient remained perfectly well for a little over two years, when it returned as before, under the cicatrix, and was again removed on the 4th of January, 1855. Her health continued, as before, perfectly good.

From this time to the latter part of 1859, there was no appearance of the disease nor any derangement of the health. It then appeared again, just under the cicatrix, and I removed it for the fourth time, January 12th, 1860. It was nearly as large as the second and third tumors; the wound healed entirely by the first intention, and the patient returned home well.

On the 20th of February, 1861, she again presented herself, with a tumor much larger than any since the first; or rather, there were two tumors, connected together, one quite small, not larger than a large walnut, just under one portion of the cicatrix, over which the skin was of a florid color, smooth and shining, and so tense as to appear adherent to it—but which proved not so. The other tumor, connected with the smaller one by loose cellular tissue, was situated under the axillary fold of the great pectoral muscle, and reached into the axilla. She had now a slight cough,

which had troubled her more or less for the past year, and she was not quite so fleshy as before, but had felt well and had done all her ordinary family work. I again removed the tumors, the larger one of which appeared to be confined entirely to the cellular tissue, the muscles being not at all involved. It was enucleated with scarcely a touch of the knife; only one small artery required tying; the wound healed by the first intention, and she left for home, apparently well, eight days after the operation.

The frequent recurrence of the tumor at or near the part where it first showed itself, with so little impairment of the general health, are especial points of interest in this case. I began to have doubts as to the correctness of my first diagnosis, upon finding my patient's life so much prolonged; and at the suggestion of my friend, Dr. Thayer, a portion of the tumor was sent to Prof. Stiles of Pittsfield, an experienced microscopist, for examination. The result I will give in his own words: "The specimen you sent contains no cancerous juice, but is composed of fibrous and fibro-plastic tissue. I consider it a good specimen of sarcoma. The only cellular element it contains is a pale, oval cell, transparent, without granulations, of a long diameter, varying from that of a blood-corpuscle to double that diameter, containing one or generally two nucleoli—these last not brilliant or as well marked as in what is generally called cancer. When the tissue is fairly separated, these cells, or more properly nuclei, are found attached to a fibrous bundle or fusiform fibro-plastic element. The fluid contains fusiform fibro-plastic elements and exudation, and pus-corpuscles. I find no structure in the mass, parallel fibres only,—no yellow elastic tissue, no glandular arrangement of cells. It has not the characters to which malignity is generally attributed."

In Paget's Surgical Pathology, we find described a form of disease which I do not remember having seen so fully described before, and which very nearly resembles the case above reported. Mr. Paget proposes for this class of tumors the name *Recurring Fibroid Tumors*, they having these remarkable characters in common:—"1st, A general resemblance to the fibrous tumors in their obvious characters. 2d, A microscopic texture composed essentially, of elongated and caudate or oat-shaped cells, somewhat resembling the elongated cells of granulations, or of lymph developing into fibres, yet differing from them enough to be easily distinguished. 3d, An exceeding tendency to local recurrence after removal, and, in the worst extremity, to protrusion and ulceration. 4th, An absence of those events, which, in cases of ordinary malignant growths, would coincide with local recurrence, such as cachexia, independent of profuse suppuration, pain and other ordinary causes of exhaustion, and the absence of all affection of distant parts or of the lymphatics. 5th, Occasionally a cessation of the tendency to recurrence and a complete recovery." One of the cases reported by Mr. Paget, in illustration, is as follows:

"In 1839, Mr. Syme removed a tumor, which, without any known cause, had been growing for a year, over the anterior part of the right rib of a gentleman aged 48 years. Two years after the operation, another tumor appeared in or near the same part, and was removed by Mr. Syme in 1843. A third was removed in 1847, and a fourth in 1849. After an interval of apparent health, a fifth tumor appeared, and grew quickly, and was removed by the same gentleman in 1851. The patient recovered from the last operation, as from all the previous ones, quickly and favorably, but the wound had scarcely healed when two more tumors appeared beneath the scar, like the preceding ones, except in that they grew more rapidly: one of the tumors was so firmly fixed to the clavicle that no further operation could be recommended. In six months' growth, the tumors, at first distinct, had formed a single mass deeply lobed, of oval form, measuring a foot in one diameter; and about ten inches in the other. It covered, and felt as if tightly fixed to, the mid-half of the clavicle, and then extended downward over the chest and outward toward the axilla; it felt heavy, firm, tense and elastic. The skin, tightly drawn over it, and, by tension, appearing as if adherent, was generally florid, but in some parts livid, and over some of the most prominent lobes ulcerated; the principal ulcers were superficial, covered by healthy granulations, discharging thick pus, having no cancerous or other specific character.

"The patient's health was scarcely affected; he was still a florid, sturdy man, and fed, slept, talked and moved about as a man in health might do. But within the last month (February, 1852,) the ulcerated surface of the tumor had bled severely.

"The tumor increased constantly to the time of the patient's death in July, 1852. Death seemed due to mere exhaustion, consequent upon the discharge from the tumor, and the pain to which, as it extended further into the axilla, it gave rise. There was no indication of any internal disease, but an examination, other than of the tumor, was not allowed.

"Under the microscope, after having lain in spirit, the tumor presented a great many slender awl-shaped corpuscles; they looked dry and shrivelled, containing no distinct nuclei, but minute shining particles, as if themselves were outgrown nuclei. With these were also numerous broader and shorter corpuscles of the same general aspect, but enclosing oval nuclei and yet more numerous smaller bodies, like shrivelled, oval elongated nuclei, dotted and containing minute shining particles. The whole mass appeared made up of corpuscles of these various shapes, irregularly or lineally imbedded in a substance that was nearly structureless, or imperfectly fibrillated."

There are several points worthy of notice in these cases:—The frequent recurrence of the tumor near the same place, at irregular intervals; the rapidity of its growth when it recurred; the quick

and favorable recovery after removal; the good general health of the patient; and the non-malignant anatomical character of the tumors, as shown by the microscope.

From the result of this case and one other of similar character which has come under my observation, I have become more cautious in my prognosis, and more ready to urge an operation in those cases which have all the general characters of malignant disease; for though in this case my patient is not cured, still I have no doubt that her life has been prolonged more than eight years already.

ART. XXI.—*Systematic Subdivisions of Inflammation.* An abstract of the Annual Address before the Connecticut River Valley Medical Association, delivered May 1, 1861. By EDWARD E. PHELPS, M. D., President.

The subject upon which I shall address the Society is, the General Pathology of Inflammation, especially the subdivisions of that morbid process; supposing that in this way I may reach a subject of great interest to us at the present day—that of diphtheritic inflammation, and about which, notwithstanding much has been written, all, so far as I have seen, while attempting to make it a plain matter, have rather added confusion.

For my own part, a careful study of what the European pathologists and pathological anatomists have written on the subject of inflammations generally, has enabled me to look upon the whole pathology of diphtheria as very clear and simple.

Not only our writers of works on theory and practice, but also our practitioners, seem to be afraid to throw themselves upon such a firm basis as that of Rokitansky, and consequently they are losing the support of such high authorities. I have nothing new to offer from my own observations or investigations, and have only sought to bring into a small compass, and combine in proper order, the labors of such men as Rokitansky, Engel, Virchow, and other eminent German pathologists, as also some of the French and British. I think it is unwise and culpable on the part of the profession to turn its back upon the translations that are now published of the labors of some of the illustrious persons named.

In relation to the pathology of inflammations, there is hardly one of the various forms that can be fully, or even fairly understood, without some study of all the other forms; and it is of much more consequence to understand the manner in which the structure of tissues influences the form of inflammation, and

determines the immediate results, than to look so much as we are in the habit of doing, at the organic disturbances, and spend as much time as we do in determining merely the organ that is inflamed, when we should seek more diligently to ascertain the character and form of the inflammation. In order to understand what inflammation itself is, we must look carefully at the other deviations from normality that occur in the capillary system.

We are well apprised of several of the principal elements of the inflammatory act, and can, of course, give a fair definition. Such, for instance, as congestion, stasis, and exudation; these three elements occurring in a given sequence. Another element it is presumed exists, and which has been called a nervous element—with what propriety I will not pretend to determine. The evidences of it are seen to precede and follow the establishment of inflammation, as is noticed in that marked constitutional disturbance to which the term febrile reaction is given.

It is a matter of some importance to notice that congestion is the first of this series of elementary disturbances of vascular action; that it consists in an increased amount of blood in the capillaries of a part, the motion of which is not arrested—it might be hurried—and if the disturbance is not to terminate in congestion only, the motion would finally become more or less vacillating.

If this last change occurred, it would soon end in a loss of motion in the blood and the capillaries become crowded with red corpuscles, in a perfectly quiescent condition. This would be stasis. But the motion of the corpuscles can never be arrested, even for a brief period, without losing in some considerable degree their vital properties—as seen in the readiness with which they part with their contents, in stasis.

The third element of inflammation—exudation—consists in the passing through the capillary wall of a fluid plasma into the intercapillary spaces. And while in the normal state, a fluid passes in the same manner for nutritive purposes; here the fluid, instead of being nutritive, is rather opposed to healthy nutrition; its increased quantity and its altered quality being such as in many instances favor abnormal nutrition, or prevent it entirely, and even in some instances, by regressive metamorphosis, diminish the vitality of already formed tissues with which it comes in contact. In character, this exudation may pass all the way from an abundant serous or sero-purulent fluid, containing little else than water, to a highly plastic one, rich in fibrinous and albuminous contents. When these three conditions, congestion, stasis and exudation, have followed each other in regular order, we have inflammation, and shall then notice another element, by virtue of which a local affection becomes generalized over the whole system, in a disturbance of those functions which in health are general.

When, too, these three known elements have combined, we find the circulation in a limited district arrested, and all dis-

tingent traces of tissues invisible; they appearing to be fused into one homogeneous mass. This is most noticeable in the central portion of the inflamed district, that which is towards and at the circumference showing more and more traces of the ordinary tis-
sual arrangement.

The classification of the various inflammations is founded upon structural differences mostly, and each species of inflammation may have some variety of type; this being determined by the fourth element, which is a variable one. Any inflammation may at one time be purely sthenic or asthenic, and at a subsequent period be less so; and when an epidemic inflammatory affection occurs, the different cases will have different degrees of sthenia or asthenia; for the most part, however, each inflammation has a peculiar type.

In classifying inflammations, we commence with those of the mucous membranes; closely allied to which are those of the serous membranes and the skin. All these form a natural group, while inflammations of the substance of organs, either interstitial or parenchymatous, are comprehended in another group. Besides these, we have inflammation of fibrous tissues, follicular apparatus of the mucous membrane and skin, and certain specific inflammations induced by the agency of poisonous substances introduced within the system, of which the syphilitic poison and mercury are the most prominent examples.

The inflammations of the mucous membrane are either catarrhal, croupose or diphtheritic. In all the exudation is abundant, but varied in character, in the different species; being sero-mucous, and muco-purulent in the catarrhal form, fibrinous and plastic in the croupose and diphtheritic. It is simply plastic and thrown from the free surface of the uninjured membrane in the croupose form; while in the diphtheritic, the exudation is not permanently plastic, but though plastic when deposited upon the surface, tends rapidly to an ichorous and even corrosive condition.

In the diphtheritic form the exudation is quite as abundant within the substance of the membrane as upon its surface, being in fact interstitial, and still more copious in many instances in the submucous areolar tissue, and at times extending even farther into the surrounding organs. In consequence of the pernicious reaction of this exudation, the membrane always shows some injury beneath the false membrane, and eventually sloughing and ulceration occur.

Of catarrhal inflammations we have, in the respiratory tract:

Coryza, laryngitis, tracheitis, bronchitis, and catarrhal pneumonia. In the digestive tract, stomatitis, pharyngitis, œsophagitis, gastritis, gastro-enteritis, and enteritis. In the urino-genital tract, cystitis, vulvitis, vaginitis, (non-virulent,) urethritis, (non-virulent,) catarrhal metritis, and, though rarely, inflamma-

tion of the mucous membrane of the biliary passages, and of the pelvis of the kidney, or pyelitis. This catalogue includes all the well-marked varieties of catarrhal inflammation.

Croupose inflammation is found in the following instances :

Pseudo-membranous or true croup, pseudo-membranous inflammation of the throat, pseudo-membranous tracheitis, bronchitis and œsophagitis, croupose pneumonia, inflammation of the utero-vaginal mucous membrane, and nephritis, (chronic or albuminous, Bright's disease.) Of these, true croup, acute Bright's disease, croupose pneumonia and croupose bronchitis, are most important.

Diphtheritic inflammation has been seen in the following varieties :

Diphtheritic stomatitis, pharyngitis, gastritis, vaginitis, cystitis, and inflammation of the biliary passages. Diphtheritic inflammation of the pharynx, extending to the tonsils and mouth, is the diphtheria of the present day.

In the serous membranes, we have an inflammation attended with an exudation, which may be simply serous, or the serum may contain fibrine or pus ; it may have little or much plasticity, and may become semi-organized and form permanent structures that are perfectly benign.

Amongst them we include the well-known inflammations :

Pleuritis, peritonitis, pericarditis, and perhaps arachnitis.

Of those inflammations affecting the substance of organs, a difference arises in consequence of the peculiar character of the exudation. In most cases it is aplastic, and the only remarkable result is suppuration, which occurs to a greater or less extent, according as the areolar tissue of the organ is more or less implicated. Although in all cases it is interstitial, yet the term of interstitial is reserved by most pathologists to apply to those cases where the exudation is to some extent organizable, and leads to serious results ; such is the case in interstitial hepatitis or cirrhosis, interstitial nephritis or acute Bright's disease, and interstitial pneumonia.

In some of them, the organized exudation resembles the ordinary cicatricial tissue, and by its gradual contraction finally obliterates the proper cells of the organ, and produces permanent condensation with a consequent impaired function. Cirrhosis is a good example of this.

The term "parenchymatous" has been applied to other inflammations of the substance of organs—an improper use of the term, however, which had better be dropped, and "phlegmonous" substituted. This term, also, is somewhat objectionable, but inasmuch as the areolar tissue is sure to be involved in some degree, its use may be continued.

Of phlegmonous inflammations we have :

Phlegmonous tonsillitis, glossitis, nephritis, hepatitis, ovaritis, metritis, cerebritis, neuritis, myelitis, and carditis.

Of the inflammations of serous tissue we are compelled at once to recognize the predominance of either the white or the yellow elastic fibre in the structure ; because wherever the yellow elastic fibre predominates, even the slightest inflammation will cause permanent contraction. Thus, all through the endocardium yellow elastic fibre abounds, and inflammation surely terminates in contraction, and consequent distortion of the valves of the heart or orifices of the large vessels.

But when the white fibre predominates, as around joints and in the coverings of bones and cartilages, we have a different result.

Amongst inflammations of white fibrous tissues we may rank, periostitis, perichondritis, arthritis, (non-rheumatic,) and cerebral and spinal meningitis.

Of follicular inflammation and of cutaneous inflammation, I have now no time to speak, and must, for like reasons, pass over the specific inflammations.

From this brief sketch of the pathology of inflammation, it will be seen that in diphtheria or diphtheritic stomatitis and pharyngitis, we have :

1st. A peculiar fibrinous exudation upon and within the mucous membrane, as well as beneath it.

2d. That the free surface of the membrane is always roughened and more or less changed, and can never return to a perfectly normal state, as in croup.

3d. That there is more or less destruction of the mucous membrane, in consequence of the interstitial exudation rapidly changing and acquiring reactions that are destructive of vitality in the parts in contact with it—this only taking place on the site where the exudation occurs.

4th. Beneath the mucous membrane and in the areolar tissue, not only the ordinary phlegmonous inflammation of areolar tissue ensues with suppuration, but the purulent matter has an ichorous or corrosive power to some little extent.

5th. Diphtheritic inflammation differs from catarrhal inflammation in type—the one (catarrhal) having almost uniformly a sthenic type, while the other is always asthenic in a marked degree.

6th. Diphtheritic inflammation differs from croupose inflammation, by its type being of a lower asthenic degree.

ART. XXII.—*Chronic Gastritis; probably Ulceration of the Stomach; Hæmatemesis, arrested by Persulphate of Iron; Recovery.*
By WM. HENRY THAYER, M. D.

The excellence of the persulphate of iron (Monsel's Salt) as a styptic in external hæmorrhage, led me to employ it last winter in a case of profuse hæmatemesis; and its use was attended with so complete relief, that I am induced to publish it through the JOURNAL.

A machinist, about thirty years of age, a hard drinker, and in the habit of chewing and smoking tobacco to an immoderate degree, vomited blood in considerable quantity on the morning of February 5th, and I was immediately called. I had never seen him before, and got the following brief history from his friends:

He had a mild attack of delirium tremens a year ago; his intemperate habits have continued, and latterly he has been in the habit of drinking inordinate quantities of beer. He has long had dyspeptic symptoms, and for several weeks has had daily severe pain at epigastrium and under lower part of sternum, aggravated in paroxysms; has frequently vomited, more especially early in the morning after his nightly debauches. Has been often observed to stop at his work and put his hand to his stomach, crying out that he was in pain. He is irregular in the bowels, frequently costive, and suffering with hæmorrhoids. He has no cough, and is not subject to it.

That morning, while at stool, he vomited suddenly a quantity of blood, and became quite faint, and when able to get back into the workshop, he vomited more, complaining of extreme pain at the epigastrium. We got him home on a litter as soon as possible, and the vomiting was repeated, with recurrence of the agonizing pain. He had vomited in all a quart, and was very pallid, with feeble pulse.

I injected a quarter of a grain of sulphate of morphia in solution into his arm, with prompt relief. Fed him with ice freely. Withheld all food through the day. Directed absolute quiet and rest.

Feb. 6th.—More comfortable. Takes cold liquid nourishment in small quantities. This afternoon, he got up and smoked a pipe, and soon began to have violent pain in the stomach, and to vomit blood, which he continued to the amount of two pints and a half, partly coagulated. The pain was so severe as to make him howl, and was much aggravated by each turn of vomiting.

Repeated morphia-injection, with ready relief, and employed ice freely. Directed Pil. Hydrarg. gr. vii., Extract Hyosciami gr. iii.

in the evening, to be followed by *Magnesia Sulphas* the next morning.

Feb. 7th.—Got two evacuations, large, dark, containing much blood. Remained comparatively comfortable through the day, but vomited a little blood in the evening, with pain as before.

Repeated morphia-injection. Administered solution of persulphate of iron. Left *Morphia Sulphatis* gr. 1-4 to be taken in night, if pain returned.

Feb. 8th.—Had a comfortable night. Is a very restless, nervous man. Has pain in limbs and different parts of body, apparently from extreme debility and confined position, having been kept strictly at rest, and not suffered to move in the bed without assistance, or to use any exertion whatever. His pain is temporarily relieved by friction. Tenderness at epigastrium.

Broth for food. *Sol Ferri Persulphatis* at 11 A. M. and at 8 P. M. daily. *Tincturae Opii* half a drachm in night, if wakeful or restless. (Has used it often for some weeks past in drachm-doses, on account of his gastric pain.)

During the next day (9th) he got five ounces of broth every three hours, and gruel between. Was very hungry. Continued weak and extremely pallid.

Directed *Tinct. Acidi Sulphurici* one drachm, in a pint of water, for daily drink.

On the 11th, eat six oysters and a cracker. Sat up to have bed made. Pain in limbs has gone. Hungry. Pulse stronger. No hæmorrhage since the 7th.

Substituted for persulphate of iron, *Ferri Citratis et Strychnia* gr. iii. three times daily. Omit sulphuric acid.

Feb. 15th.—Has been improving daily. This morning, after sitting up several hours, was seized with sharp pain at epigastrium, and vomited a quart of watery ingesta, no blood. Pain very severe after the vomiting.

Injected morphia Sulph. gr. 1-3 in solution, with speedy relief. Gave peppermint-water. Directed him to drink more moderately.

Feb. 16th.—Had no return of pain or vomiting. Sitting up. Feels well. Left him, with strict injunctions for regularity and moderation in diet, and total abstinence from alcoholic liquors and tobacco.

March 12th.—Saw him at Town Meeting. Not yet able to work. Feels well, but weak; is quite pale.

April 5th.—Has been at work three weeks. Had much œdema of lower extremities at first, which has lessened day by day, and is now confined to feet, and slight. Natural complexion nearly restored. Has mostly regained strength. Weighs seven pounds more than his average. Has had no vomiting, no hæmorrhage, no pain. Appetite and digestion good.

The amount of the solution persulphate of iron used was not specified, but was about equal to three or four grains of the solid

persulphate at each dose. and was given in an ounce of water. There was no hæmorrhage after it was begun.

It seems at first a little remarkable that from a fourth to a third of a grain of sulphate of morphia should be sufficient to relieve pain which appeared so intense. It may be said, however, that the patient was a nervous man, and more demonstrative than most men, that in his debilitated state from large hæmorrhage he was more susceptible to the influence of morphia, and that it is more energetic in its action when administered subcutaneously.

Perfect rest was secured after the second hæmorrhage, and the upright position studiously avoided. Concentrated nutriment was given, cold, in small quantities, at frequent intervals. Counter-irritation was occasionally employed to relieve pain, and when it was severe, opium in some form was administered.

June 20th.—(Four months and a half from the attack.) He says he continued well in all respects till about a month ago. But since then he has had some uneasiness at the stomach and under the sternum, no acute pain, and has vomited several times, but no blood. His food gives him usually no inconvenience. He retains his flesh, and works his full time, except on the days when he has had his attacks of vomiting. He is constipated and suffers with hæmorrhoids—says he has none external. He has been trying a variety of nostrums for relief, and has taken to chewing tobacco again. He has not been known to be intoxicated or to drink since his sickness, but confesses to an occasional glass of beer.

It seems probable that his nostrums and his tobacco are the occasion of the return of gastric difficulty. My advice to him is to leave them off entirely, and the beer too, to use food of a laxative character, and a daily enema of cold water.

I have been interested to see by communications in recent numbers of cotemporary Journals that some other gentlemen have had an equally favorable experience with the persulphate of iron as an internal hæmostatic.

SELECTIONS.

SPONTANEOUS GENERATION IN ITS RELATIONS TO PATHOLOGY.

[Translated from the *Archives Générales de Médecine*, for the *Berkshire Medical Journal*.]

Quite a number of discoveries which have enriched the physical and natural sciences have been turned to the profit of medicine; comparative anatomy and physiology have furnished useful discoveries, or at least new points of view; physical studies, and the perfection of chemical analysis, have lent unexpected facilities to the diagnosis of diseases. But the obligation does not cease there—secondary applications have not sufficed; for in the last few years particularly, the attempt has been made to engraft upon pathology the laws which govern organized beings. This attempt, though not as new as it seemed at first, has still its boldness and novelty. It is long since pathologists first questioned whether every disease could not be regarded as a sort of living being, of an inferior species, having its own laws of development. Long before Stark had formulated his doctrine of parasitic diseases, the causation and progress of various affections had been explained, more or less explicitly, by the same hypothesis: our pathological language still retains the traces of this tendency. Some, still more imaginative, had represented the human organism under the influence of certain diseases, as putting on the characters of organizations less advanced in the animal series.

At last, when the more thorough study of the evolution of germs had thrown new ideas into the natural sciences, it was asked how far medicine could profit by these acquisitions. It is certain that pathological formations spring up in the organism as new growths, and there develop themselves. Without even examining into their intimate structure, we are struck at first sight with the analogy they present with the animal and vegetable productions whose generation we study in the normal state. Of these productions some are really distinct beings, accidentally implanted in the organism, at the expense of which they live: others have not the same independence.

How far can we apply to these pathological formations the laws of generation? Are they the result of a spontaneous generation? Do they, on the contrary, spring from preëxistent and similar germs? Such are the questions proposed and answered in one way or the other, but in this respect, as in so many others, pathology has followed the current of physiological opinions.

The problem of generation which has recently been the subject of interesting researches, thus acquires a pathological interest, and ought to receive the attention of physicians as well as naturalists. We have thought, therefore, that it would be useful to give a *resumé* of the arguments which have been recently produced for and against spontaneous generation.

Spontaneity of generation, admitted as an axiom by all antiquity, becoming a fundamental dogma of the most influential philosophical schools, and chanted by the poets, could not be accepted without scrutiny by modern science, and facts were summoned to confirm or contradict it.

Before the microscope had revealed the myriads of animalcules in liquids containing decomposing animal matter, observation had disclosed the habitual development of living beings, of which the origin could not be traced, in bodies undergoing putrefaction; it was thought that their presence could be explained only by the intervention of spontaneous generation; but when Redi had submitted this old opinion to a rigid scrutiny, it was found that these larvæ were the offspring of well known insects; that if they appear in putrifying animal matter, it is because they there find all the necessary conditions of their development, and have been lodged there in the state of germs by a wonderful reproductive instinct; from that time the mode of generation of the animal series appeared to find its expression in the old adage: *omne animal ex ovo*.

At a later period the observations of Leüwenhoeck and his successors, revealing the existence of the animalcules which swarm in infusions of organic matter, revived the ancient hypothesis, and aroused discussions which have continued to the present time. Still, in proportion as experimentation became more precise, the doctrine of spontaneous generation lost its character of probability, and was gradually abandoned; this at least results from the labors of contemporaneous observers. Without dwelling on the history of these researches, we will confine ourselves to an analysis of the most recent, which, from the rare merit of their authors, have thrown a new light on this difficult question.

According to Dumas, organic matter kept at a temperature of 30 degrees (86 Fahrenheit) with artificial water and artificial air, inclosed in tubes shortly after they had been brought to a red heat, affords no trace of organization or of animalcules.

Milne Edwards proved that organic substances and water enclosed in a tube heated in a lamp, and plunged in a bath at a temperature of 100 degrees (212 Fahrenheit) for a sufficient time, never give rise to organized beings.

Bernard put a solution of gelatine and cane sugar in two balloons, the neck of which had been previously drawn out in a lamp, and brought the liquid to the boiling point; in the one he allowed common air to enter; in the other air brought to a red heat

according to Schwann's directions, and closed them both in the lamp. In a short time the first balloon contained the penicillium glaucum, while the second showed no trace of it.

Haime, making similar experiments, passed for several days a current of air into a balloon containing water and organic matter; the air in entering and escaping passed through tubes filled with pumice soaked in sulphuric acid, phosphoric acid, and a solution of lime and potassa. In this experiment living beings made their appearance, but if the liquid in the balloon is first boiled, there is no development of organization.

Quatrefages, seeking to solve the same problem in a different manner, studied the dust which remains in the filter after a rain-storm, and found there the spores of a great number of infusoria.

In proportion as experiments multiplied, and with always the same result, the opinion prevailed that life is found only where it has been transmitted; and that dead matter, in whatever physical and chemical conditions it may be placed, is incapable of producing living beings.

This denial of spontaneous generation without being always clearly formulated, had become universal, when, in 1858, Mr. Pouchet reviewed radically the labors of his predecessors, and on the strength of new experiments, raised doubts, or rather gave an opposite opinion.

The method of experimentation followed by this observer was little different, however, from that of his predecessors, and hence the astonishment, and even mistrust, with which his results were received by the scientific world.

The author thus describes the method of his researches. "A flask holding a litre (1.76 pints) filled with boiling water, and hermetically closed, was inverted over a mercury bath; a little bundle of hay was then introduced weighing 10 grammes, (154.38 grs.) which had just been taken from an oven heated to 100 degrees, (212 Fahrenheit) in which it had remained for thirty minutes. The flask was closed hermetically, by a ground stopper, and covered with a layer of oil-varnish and vermilion." In eight days the flask was opened, and a new variety of fungus found called by Montagne, *Aspergillus Pouchetii*.

The same result follows with artificial air. Penicillium, Aspergillus, and various animalcules were found: proteus diffluens, amiba diffluens, monas elongata and several kinds of vibrios. Pouchet had previously assured himself that the spores of penicillium and aspergillus placed in boiling water are deprived in a quarter of an hour of their germinative properties. The organic germs had not then been brought from without into the liquid, but had developed themselves in it spontaneously. The natural conclusion was that vegetables and animals can come into existence in water which has been previously boiled and placed in a medium different from atmospheric air, or in atmospheric air previously heated to a red heat.

But doubts and objections soon arose. Could these experiments be regarded as decisive? Was even this temperature sufficient to destroy all the germs? Was it not known that Doyère had heated dried tardigrades and rotifers to a temperature much above 212° F., and that a little moisture had sufficed to restore them to life? On the supposition that this fact had been generalized beyond its legitimate bearing, had not Davaine confirmed it within its true limits? The species which live constantly submerged do not possess the property of resuming the manifestations of life after having been dried, even for a short time, while the species which live in places exposed to alternations of dryness and moisture possess, on the contrary, this property, even when dessication has been prolonged for a comparatively long time.

To these objections of the adversaries of spontaneous generation, Pouchet and his partisans did not fail to reply. On heating the hay to a temperature higher than 212° F., they had obtained the same definitive result; as to the phenomena of revivification of tardigrades and rotifers, they denied positively the resurrection of an animal killed by dessication, the temperature of 212° F. sufficing to destroy life. That which had been taken for a revivification was only the phenomenon of endosmose on a dead animal, or the maturation of new germs. Further, Mr. Pouchet had found, in studying the dust of the air, grains of starch in inhabited places, and in uninhabited districts, silica. In nearly 2,000 experiments he met with germs of infusoria only twice.

The truth respecting spontaneous generation remained, therefore, undecided amid these contradictory experiments, which bore rather on the revivification of tardigrades than upon the essence of the first question. Recent researches have just thrown light on the contested facts, and brought about a solution which appears definitive. Gavarret has confirmed the phenomenon of revivification, and has determined its conditions. Pasteur has demonstrated beyond a doubt the presence, before inappreciable, of germs contained in the air.

The importance of these last researches renders it necessary to give a detailed analysis of them:

Gavarret has made a great number of experiments in order to determine, under various conditions, the action of heat upon certain animal species; he has proved that in a dry state rotifers and tardigrades may be brought to a temperature of 230° Fahrenheit, and regain their activity under the influence of moisture. It is only by altering the composition of the organic matter of their bodies that heat kills them. This alteration appears to commence at 230° or 239° F. In water, rotifers and tardigrades can endure a temperature of 112° F. without losing their activity.

In a saturated space, if they have been previously saturated with watery vapor, they can be brought to a temperature of 176° F., with impunity. These results settle definitively the question

of the revivification of tardigrades and rotifers ; the experiments were conducted with too great care and precision to admit of contradiction.

In a succession of remarkable researches on fermentation, Pasteur has shown that lactic yeast is produced whenever sugar is transformed into lactic acid. On adding to a solution of pure sugar in water a small quantity of an ammoniacal salt, and of phosphate and carbonate of lime, in twenty-four hours a fermentation is established, and common lactic yeast is precipitated, together with infusoria ; as it respects the origin of this lactic yeast, it is always from the atmospheric air ; for if the same mixture is boiled, no fermentation, nor lactic yeast, nor infusoria, result.

The presence of organic substances in the air has been proved more plainly still by a series of ingenious experiments which have at the same time made known the causes of error on the question of spontaneous generation. In experimenting with the mercury bath, with rigorous precautions, Pasteur arrived at variable results, with both calcined air and artificial air ; because in the mercury bath there are living germs brought by the air to the surface of the liquid, in its substance, or on the sides of the bath.

As a basis of operations he took, among long known facts, the experiment of Schwann, which he proved incontestable ; air which has been burned does not give rise to infusoria, and by very simple researches he reaches the demonstration that *this something* existing in the air, and which is a condition of organization, is nothing more nor less than a collection of germs.

He isolated dust contained in the air by causing it to pass through a tube in which is placed a small plug of gun cotton, soluble in a mixture of alcohol and ether ; part of these solid corpuscles contained in the air, is arrested by the cotton ; in dissolving it a precipitate falls, after a time, which it is easy to collect and study, and which is composed of granules of starch, and also other organic corpuscles, separable from the granules of starch by sulphuric acid, which only dissolves the latter. Are these corpuscles the living germs of vegetable growths and infusoria ? Experiment answers in the affirmative. Pasteur puts into a balloon water, sugar, and albuminoid and mineral substances. The neck of the balloon, drawn out to a point, communicates with a tube of platinum at a red heat. The liquid is boiled and allowed to cool slowly ; the balloon becomes filled with *calcined* air. It is closed in a lamp, and the liquid is kept for an indefinite period without alteration. If now, by the aid of an apparatus which permits operating altogether in *calcined* air, the point is broken, and there is introduced into the balloon a little tube filled with cotton impregnated with organic dust—and itself filled with burned air, the balloon, again sealed in the lamp, will soon become filled with *bracterium*, and various kinds of mould, *penicilium*, *ascaphora*, *aspergillus*, and still other genera, which grow, and fructify, when they reach the surface of the liquid.

This experiment proves that organized corpuscles are always in suspension with the dust of the air, and further, that this dust, placed in a suitable liquid in an atmosphere altogether inert of itself, gives rise to various organisms.

These results were confirmed by a much more simple method; the same quantity of liquid capable of fermentation is placed in a series of balloons; the neck is drawn out in a lamp, and bent in various directions; they are all left open with an aperture about a line in diameter, and most of them are brought to the boiling point; they are then left, sheltered from currents of air. In twenty-four to forty-eight hours, according to the temperature, the liquid in the balloons which have not been heated, loses its transparency, and becomes covered with mould, and the liquid in the other balloons remains limpid for months together; and yet all the balloons are open. No doubt the windings and bendings of the neck keep the liquid free from the falling germs of the atmosphere. If the neck is broken and the aperture rendered vertical, in a day or two mould and *bracterium* appear.

These researches prove that the dust floating in the air contains, besides its mineral and organic elements, germs which are the source of organization.

The hypothesis of spontaneous generation, ingenious and plausible when the opinions respecting the origin of living beings rested on doubtful facts, and the interpretations of the imagination, thus vanishes before rigorous research. Thus, from these lengthy discussions the establishment of several truths long wrapped in insurmountable difficulties, would now seem secured, viz: the revivification of certain species of animals after exposure to a high temperature, and the diffusion in the air of germs—the conditions of life. Under various forms and appearances, one universal principle controls nature, and the phenomena of reproduction follow a common law. Life is transmitted, and cannot be created; no combination of physical or chemical forces or agents is able to produce living beings.

How far has medicine the right to apply this law, the absolute sway of which should no longer be contested, to pathological productions? The species of parasites which have been studied perseveringly in this point of view, appear to come within the general law. Every day the admission gains ground that they are engendered like other living beings; and the parasites whose exact affiliation we have not yet discerned, are supposed to have passed through larval modifications, which alone have prevented us from finding out their origin.

Is it the same with the formations not endowed with life, and to which the term *heterologous* was applied, which were regarded as created by a true spontaneous generation, and as foreign to the organism? Analogy is evidently in favor of continuous generation, which would thus become the absolute condition of every new production.

DIRECTIONS TO ARMY SURGEONS ON THE BATTLE-FIELD.

BY G. J. GUTHRIE,

Surgeon-General to the British Forces during the Crimean War.

1. Water being of the utmost importance to wounded men, care should be taken when before the enemy, not only that the barrels attached to the conveyance-carts are properly filled with good water, but that skins for holding water, or such other means as are commonly used in the country for carrying it, should be procured and duly filled.

2. Bandages or rollers, applied on the field of battle, are, in general, so many things wasted, as they become dirty and stiff, and are usually cut away and destroyed, without having been really useful; they are therefore not forthcoming when required, and would be of no use.

3. Simple gun-shot wounds require nothing more, for the first two or three days, than the application of a piece of wet or oiled linen, fastened on with a strip of sticking-plaster, or, if possible, kept constantly wet and cold with water. When cold disagrees, warm water should be substituted.

4. Wounds made by swords, sabres, or other sharp-cutting instruments, are to be treated principally by position. Thus, a cut down to the bone, across the thick part of the arm, immediately below the shoulder, is to be treated by raising the arm to or above a right angle with the body, in which position it is to be retained, however inconvenient it may be. Ligatures may be inserted, but through the skin only. If the throat be cut across in front, any great vessels should be tied, and the oozing stopped by a sponge. After a few hours, when the oozing is arrested, the sponge should be removed, and the head brought down towards the chest, and retained in that position without ligatures; if this is done too soon, the sufferer may possibly be suffocated by the infiltration of blood into the areolar tissue of the parts adjacent.

5. If the cavity of the chest is opened into by a sword or lance, it is of the utmost importance that the wound in the skin should be effectively closed, and this can only be done by sewing it up as a tailor or a lady would sew up a seam, skin only being included; a compress of lint should be applied over the stitches, fastened on by sticking-plaster. The patient is then to be placed on the wounded side, that the lung may fall down, if it can, upon, or apply itself to the wounded part, and adhere to it, by which happy and hoped-for accident life will in all probability be preserved. If the lung should be seen protruding in the wound, it should not be

returned beyond the level of the ribs, but be covered over by the external parts.

6. It is advisable to encourage previously the discharge of blood from the cavity of the chest, if any have fallen into it; but if the bleeding from within should continue, so as to place the life of the sufferer in danger, the external wound should be closed, and events awaited.

7. When it is doubtful whether the bleeding proceeds from the cavity of the chest, or from the intercostal artery (a surgical bugbear,) an incision through the skin and the external intercostal muscle will expose the artery close to the edge of the rib having the internal intercostal muscle behind it. The vessel thus exposed may be tied, or the end pinched by the forceps, until it ceases to bleed. Tying a string round the ribs is a destructive piece of cruelty, and the plugs, etc., formerly recommended, may be considered as surgical incongruities.

8. A gun-shot wound in the chest cannot close by adhesion, and must remain open. The position of the sufferer should therefore be that which is most comfortable to him. A small hole penetrating the cavity is more dangerous than a large one, and the wound is less dangerous if the ball goes through the body. The wound should be examined, and enlarged if necessary, in order to remove all extraneous substances, even if they should be seen to stick on the surface of the lungs; the opening should be covered with soft oiled or wet lint—a bandage when agreeable. The ear of the surgeon and the stethoscope are invaluable aids, and ought always to be in use; indeed, no injury of the chest can be scientifically treated without them.

9. Incised and gun-shot wounds of the abdomen are to be treated in *nearly* a similar manner; the position in both being that which is most agreeable to the patient, the parts being relaxed.

10. In wounds of the bladder, an elastic catheter is generally necessary. If it cannot be passed an opening should be made in the perinæum for the evacuation of the urine, with as little delay as possible.

11. In gun-shot fractures of the skull, the loose broken pieces of bone, and all extraneous substances, are to be removed as soon as possible, and depressed fractures of bone are to be raised. A deep cut made by a heavy sword through the bone into the brain, generally causes a considerable depression of the inner table of the bone, whilst the outer may appear to be merely divided.

12. An arm is rarely to be amputated, except from the effects of a cannon-shot. The head of the bone is to be sawn off, if necessary. The elbow joint is to be cut out, if destroyed, and the sufferer, in either case, may have a very useful arm.

13. In a case of gun-shot fracture of the upper arm, in which the bone is much splintered, incisions are to be made, for the removal of all the broken pieces which it is feasible to take away.

The elbow is to be supported. The forearm is to be treated in a similar manner ; the splints used should be solid.

14. The hand is never to be amputated, unless all, or nearly all its parts are destroyed. Different bones of it and of the wrist are to be removed when irrecoverably injured, with or without the metacarpal bones and fingers or the thumb ; but a thumb and one finger should always be preserved when possible.

15. The head of the thigh bone should be sawn off when broken by a musket-ball. Amputation at the hip-joint should only be done when the fracture extends some distance into the shaft, or the limb is destroyed by cannon-shot.

16. The knee-joint should be cut off when irrecoverably injured ; but the limb is not to be amputated until it cannot be avoided.

17. A gun-shot fracture of the middle of the thigh, attended by great splintering, is a case for amputation. In less difficult cases, the splinters should be removed by incisions, particularly when they can be made on the upper and outer side of the thigh. The limb should be placed on a straight, firm splint. A broken thigh does not admit of much, and sometimes of no extension, without an unadvisable increase of suffering. An inch or two of shortening in the thigh does not so materially interfere with progression, as to make the sufferer regret having escaped amputation.

18. A leg injured below the knee should rarely be amputated in the first instance, unless from the effects of a cannon-shot. The splinters of bone are all to be immediately removed, by saw or forceps, after due incisions. The limb should be placed in iron splints, and hung on a permanent frame, as affording the greatest comfort, and probable chance of ultimate success.

19. An ankle-joint is to be cut out, unless the tendons around are too much injured, and so are the tarsal and metatarsal bones and toes. Incisions have hitherto been too little employed in the early treatment of these injuries of the foot for the removal of extraneous substances.

20. A wound of the principal artery of the thigh, in addition to a gun-shot fracture, renders immediate amputation necessary. In *no other part* of the body is amputation to be done in the first instance for such injury. Ligatures are to be placed on the wounded artery, one above, the other below the wound, and events awaited.

21. The occurrence of mortification in any of these cases will be known by the change of color in the skin. It will rarely occur in the upper extremity, but will frequently do so in the lower. When about to take place, the color of the skin of the foot changes, from the natural flesh color to a tallow or mottled white. Amputation should be performed immediately above the fractured part. The mortification is yet local.

22. When this discoloration has not been observed, and the part shrinks, or gangrene has set in with more marked appearances, but yet seems to have *stopped* at the ankle, delay is, perhaps,

admissible, but if it should again spread, or its cessation be doubtful, amputation should take place forthwith, although under less favorable circumstances. The mortification is becoming, or has become constitutional.

23. Bleeding, to the loss of life, is not a common occurrence in gun-shot wounds, although many do bleed considerably, seldom, however, requiring the application of a tourniquet as a matter of necessity, although frequently as one of precaution.

24. When the great artery of the thigh is wounded (not torn across), the bone being *uninjured*, the sufferer will probably bleed to death, unless aid be afforded, by making compression above, and on the bleeding part. A long, but not broad stone, tied sharply on with a handkerchief, will often suffice until assistance can be obtained, when both ends of the divided or wounded artery are to be secured by ligatures.

25. The upper end of the great artery of the thigh bleeds scarlet blood, the lower end dark venous-colored blood; and this is not departed from in a case of accidental injury, unless there have been previous disease in the limb. A knowledge of this fact or circumstance, which continues for several days, will prevent a mistake at the moment of injury, and at a subsequent period, if secondary hæmorrhage should occur. In the *upper* extremity both ends of the principal artery bleed scarlet blood, from the free collateral circulation, and from the anastomoses in the hand.

26. From this cause, mortification rarely takes place after a wound of the principal artery of the arm, or even of the arm-pit. It *frequently* follows a wound of the principal artery in the upper, middle or even lower parts of the thigh, rendering amputation necessary.

27. It is a great question, when the bone is *uninjured*, where, and at what part, the amputation should be performed. Mortification of the foot and leg, from such a wound, is disposed to stop a little below the knee, if it should not destroy the sufferer; and the operation, if done in the first instance, as soon as the tallowy or mottled appearance of the foot is observed, should be done at that part; the wound of the artery, and the operation for securing the vessel above and below the wound, being left unheeded. By this proceeding when successful, the knee-joint is saved, whilst an amputation above the middle of the thigh is always very doubtful in its result.

28. When mortification has taken place from any cause, and has been arrested below the knee, and the dead parts show some sign of separation, it is usual to amputate above the knee. By not doing it, but by gradually separating and removing the dead parts, under the use of disinfecting medicaments and fresh air, a good stump may be ultimately made, the knee-joint and life being preserved, which latter is frequently lost after amputation under such circumstances.

29. Hospital Gangrene, when it unfortunately occurs, should be considered to be contagious and infectious, and is to be treated locally by destructive remedies, such as nitric acid, and the bivouacking or encamping of the remainder of the wounded, if it can be effected, or their removal to the open air.

30. Poultices have been very often applied in gun-shot wounds, from laziness, or to cover neglect, and should be used as seldom as possible.

31. Chloroform may be administered in all cases of amputation of the upper extremity and below the knee, and in all minor operations : which cases may also be deferred, without disadvantage, until the most serious operations are performed.

32. Amputation of the upper and middle parts of the thigh are to be done as soon as possible after the receipt of the injury. The administration of chloroform in them, when there is much prostration, is doubtful, and must be attended to, and observed with great care. The question whether it should or should not be administered in such cases being undecided.

33. If the young surgeon should not feel quite equal to the ready performance of the various operations recommended, many of them requiring great anatomical knowledge and manual dexterity (and it is not to be expected that he should,) he should avail himself of every opportunity which may offer of perfecting knowledge.

The surgery of the British army should be at the height of the surgery of the metropolis ; and the medical officers of that service should recollect, that the elevation at which it has arrived has been on many points principally due to the labors of their predecessors, during the war in the Peninsula. It is expected, then, that they will not only correct any errors into which their predecessors may have fallen, but excel them by the additions their opportunities will permit them to make in the improvement of the great art and science of surgery. (*London Lancet.*)

Extracts from a series of Papers entitled

HINTS AND OBSERVATIONS ON MILITARY HYGIENE,

Relating to Diet, Dress, Exercise, Exposure, and the best Means of Preventing and Curing Medical and Surgical Diseases in the Army.

BY A HOSPITAL SURGEON OF PHILADELPHIA.

Believing it to be the duty of every one to do all in his power to aid the Government in the present crisis, I have collected from the best sources within my reach such facts and observations as

have been found useful both in this country and in Europe, regarding the sanitary management of troops in and out of camp, so as to keep the soldiers in good health, and by the most efficient means to relieve disease, both medical and surgical. By publishing it in a public journal, and distributing it freely, I trust I will be contributing my mite to the general good.

The great importance of sanitary regulations are shown by the following facts:

In the first seven months of the Crimean campaign, the mortality among the troops was at the rate of 60 per cent. per annum from disease alone—a rate of mortality which exceeded that of the great plague among the population of London. The number of sick and wounded soldiers received into the hospitals at Scutari was about 41,000, and the number of British soldiers who died in those hospitals during the residence of Miss Nightingale, was 4,600. The causes were: exposure, bad food, deficient clothing, fatigue, damp, bad drainage, bad ventilation, overcrowding, nuisances, organic effluvia, malaria. The diseases were: diarrhœa, dysentery, rheumatism, frost-bite, scurvy, typhus, typhoid, and remittent fevers, and cholera. Typhus fever attacked both sick and well in the hospital. During the month of November, 1854, alone, there were 80 recorded cases of hospital gangrene. Out of 44 secondary amputations of the lower extremities, 36 died. The mortality of hospitals can be compared in two ways, which mutually check and confirm each other. *First*, by dividing the deaths by the mean "strength" of the sick in the hospital, and reducing the mortality to that which would obtain, if the time of observation were a year. *Second*, by dividing the number of deaths by the number of cases treated.

What the commander of the forces and the war department want and ought to know about the health of an army is: 1. How long the army will last at the then rate of mortality. 2. Whether the diseases are preventable from which the mortality arises. 3. What proportion of the army is inefficient from sickness. A health officer should be attached to the Quartermaster's department, and have full power to attend: 1. To the draining of sites; 2. To sewerage; 3. To the cleansing of out-skirts; 4. To the ventilation; 5. To the water supply; 6. To the lime-washing and cleanliness of the buildings; 7. To the allotment of cubic space; 8. To the sanitary conduct of burials. The personal hygiene of the patients must be left to the medical officers.

Before and after the works executed by the sanitary commissioners begun in 1855, the hospitals at Scutari bore a similar sanitary relation to that of the goals of the last century, which were pest-houses, compared with Colonel Sibb's prisons in 1857, the most healthy buildings in existence. Such a sanitary commissioner will be, I trust, appointed by the Secretary of War of the United States.

DISEASES OF THE ARMY—CAUSES OF DISEASE.

The most frequent causes of diseases in armies are the sensible changes in the air, either from heat to cold, or from dryness to moisture.

Soldiers in camp, according to Dr. Rush, suffer much from heat, by being constantly exposed to the sun, either without any shade at all, or only covered by a thin tent; and where the air is so much confined that the heat is often more insupportable than without, in the sun. This circumstance, joined with the damps so incident to camp life, seems to explain why the summer and autumnal diseases of an army, even in a northern latitude, resemble so much the epidemics of southern countries, especially of those with a moist air.

It has been found that great heat alone is insufficient to cause much sickness without the accompanying condition of moisture, as the neighborhood of marshes.

Cold is much oftener the immediate cause of diseases in the army, either alone, or, especially, where attended with moisture.

Moisture.—Soldiers are much exposed to dampness in their tents, where the air can never be thoroughly dry, in consequence of the constant exhalation going on, to which is often added the moisture caused by rains, even where the site of the camp is dry or properly drained. Where there is deep water, the locality is not so dangerous to troops as marshy grounds, or meadows that have been once flooded, and but lately drained; there are situations, too, which, though dry in appearance, may yet be moist by reason of the transpiration of subterraneous water; such grounds are apt to produce bilious fever. Stagnant, moist air in low and woody countries is apt to produce fevers, especially when the men have to lie upon the wet ground.

Of the General Means of Preventing Diseases in the Army.—To prevent diseases arising from heat and cold, to avoid the effects of intense heat, commanders should direct that the marches should be early in the morning, or after the intense heat of the day is over. Soldiers suffer less from sleeping in the open air (when the ground is dry) than in tents.

The preservatives from cold consist in clothing, bedding, and fuel. Under-shirts and woolen over-shirts, with or without vests, over-coats, strong shoes, with blankets for each tent, and cloaks for the cavalry should be provided. There should always be sufficient fuel to dress their food, and correct the dampness of their barracks, though the troops should trust rather to warm clothing and exercise than to fire for preventing diseases arising from cold.

(TO BE CONTINUED.)

ABSTRACT OF CURRENT MEDICAL LITERATURE.

INFANTILE PARALYSIS.—The *American Medical Monthly* for June has a Clinical Report on Diseases of Children, by Professor Jacobi, in which we find the following case and remarks: Eugene S., aged two years. *Paralysis Essentialis, Catarrhus Intestinalis*. The lower extremities are almost entirely paralyzed, the extensor muscles apparently more so than the flexors. This paralysis was first noticed two months ago, without any premonitory symptoms. The child is reported to have been put to bed in its usual health, and unable to move on the following morning. . . . From the fact that few cerebral symptoms, or none at all, are observed in cases of infantile paralysis, we have a right to conclude that the seat of the affection must be sought for, generally, below this centre. Some cases will be produced by influences acting on the peripheric nerves—for instance, rheumatic ones; but the vast majority of cases are of spinal origin. Heine even goes so far as to consider none but spinal cases as entitled to be called infantile paralysis, and to describe it by the name of spinal infantile paralysis. In the spine, the same alterations as found in the cerebrum are met with; extravasations are not so frequent in the brain; but there are cases on record, and cases of spinal congestion, inflammation and exudation will occasionally occur in practice. The majority of cases will be met with at the age of from six months to two years, a period when the growth of the body is very rapid, and particularly the development of the nervous centres considerable. In our case, the probability is, that the premonitory symptoms have been overlooked. A mild fever may have been present without having been noticed; at all events, as there neither are nor have been any cerebral symptoms, we cannot seek for the seat of the disease in the brain; as two extremities are affected, both contemporaneously and in an equal manner, we certainly have no case of an affection of a peripheric nerve before us. Therefore, we are bound to take it as a case of spinal paralysis. The probability in our case is, that it is the result of congestion, and, as it is of pretty long standing, without any spontaneous improvement taking place, exudation—the former alone being well able to produce paralysis, and the latter being likely to be present unless there is extravasation of blood in cases of longer duration, and exhibiting no change.

The question of therapeutics is a very important one. In the acute attack, with fever and sensitiveness of the spine, etc., local

depletion, mercurials, anti-febriles, etc., might be indicated. Certainly not so in an old case. Congestion would require, perhaps, local depletion and derivants; at all events, however, such medicinal agents as are known to have some influence in contracting the lumen of the blood vessels—for instance, quinine or *secale cornutum*. Exudation would indicate the administration of absorbents, such as mercurials, iodine, and more or less powerful derivants, both external and internal. Loss of sensitiveness of the nerves, finally, without any, or proceeding from a past, anatomical lesion, would require the use of such remedies as are known to act as powerful stimulants for the nervous system, such as *nux vomica* and its preparations: not to speak of gymnastics, active and passive movements, faradization, frictions, etc., for the purpose of re-establishing the functions of the muscles.

In this case the treatment is: Passive moments: *secale cornut. recent. pulv. gr. iii.* three times a day, increased to *gr. iv.* after a week, and *v.* after two weeks: and *syr. ferri iodidi gtts v., viii., x.,* three times a day.

Four weeks afterward there was a decided change for the better.

PARALYSIS OF INFANTS ATTENDED WITH PAIN.—Kennedy describes, in a very incomplete manner, a variety of paralysis to be met with in children aged from two to four years, and he may even be suspected of having confounded it with others of an entirely different nature.

In the *Medecine Contemporaine*, Mr. Chassaignac calls attention to this morbid condition, the gravity of which is never considerable. The arm is almost invariably the seat of the painful torpor in question. It is most usually induced by dragging of the limb, or by a fall, but in all cases is the result of some external injury.

Its principal characters are suddenness of invasion, incomplete paralysis, pain, the peculiar aspect of the limb, the absence of any deformity or anatomical change, the gradual decrease and rapid cure of the paralysis.

In most instances, the symptoms set in directly after the external injury. Complete and sudden loss of power is immediately observed, but within twenty-four or forty-eight hours, obscure movements return, appreciable only on pinching the skin or moving the limb for the purpose of inspection. Common sensation is preserved, but in some degree altered, and in most instances hyperæsthesia of the integument is observable.

One of the first peculiarities of the pain consists in its sudden manifestation after the accident which occasions the disease: it is at first acute, excruciating, and causes the children to scream violently: it soon acquires a milder character, and merely elicits groans. At the beginning the pain is spontaneous, at a later period it recurs but when excited by movement or contact. In the arm, the chief seat of suffering is the internal edge of the deltoid

muscle; in the leg, it is the spot corresponding to the sciatic nerve.

The arm is immovable, hangs along the side, and the hand in a prone attitude lies upon the hip. The fore-arm is slightly bent, and if the elbow is supported, the hand drops as in the case of paralysis of the extensor muscles.

The duration of the paralysis has never exceeded one week. It has sometimes lasted but two days, and seldom persists beyond four or five. The disease is therefore one of very slight importance, and would seem to result from the concussion of the nervous plexus situate in the upper part of the limb. It yields to frictions with camphorated spirit, or almost any other aromatic fluid. Mr. Chassaignac further recommends that the arm be supported in a sling. (*Championnière's Journal*.)

CHRONIC MYELITIS.—The *American Medical Times* of June 15, has an interesting clinical lecture by Prof. Hammond, on inflammation of the spinal cord following a blow. The lecturer considers it by far the most important indication to diminish the quantity of blood in the diseased part. Strychnia increases the amount of blood in the spinal cord, and is therefore positively injurious when inflammation exists there, although a valuable agent in the treatment of certain forms of reflex paraplegia.

The medicines which directly lessen the amount of blood in the vessels of the cord by the power which they possess of causing contraction of the organic muscular fibres, which enter into the composition of the coats of the blood-vessels, are ergot and belladonna. The antigalactic power of belladonna is due to the fact that it constricts the capillaries of the mammary glands.

Its effect can be seen on the frog's foot under the microscope. Ergot has been seen by Dr. Hammond to have the same effect upon the web, not only when applied to it, but also when swallowed by the frog. The gangrene of the extremities consequent upon the prolonged use of ergot, Dr. H. considers due to the diminution of the calibre of the capillaries and consequent deprivation of blood.

The directions in this case, (of eleven months' standing, in a woman twenty-two years of age,) were, the use of ergot in three grain doses three times a day; a belladonna plaster over the lower part of the spine—the part injured; a hot douche (98° Fahr.) over the same part for two or three minutes every day; dry cups, with fresh air, moderate exercise and a good nutritious diet.

DIAGNOSIS AND TREATMENT OF PARAPLEGIA.—Dr. Brown-Sequard holds the following views concerning this subject: Paraplegia is often the effect of an outside irritation, and its production can be explained by a reflex action. All the other usual explanations cannot be satisfactorily maintained. The womb does not produce paralysis by pressing upon the obturator nerve and sacral plexus,

except in cases of very great enlargement, as sometimes in pregnancy. In cases of disease of the prostate, urethra, or bladder, urine may, by not being freely expelled, become altered, and some of its principles may become absorbed and act as poisons; there is no proof, however, that paralysis has ever been produced in this way, it being rather dependent on the irritation starting from the diseased organ. Nephritis may cause paralysis by uræmic poisoning, but then other and most striking symptoms are combined with the paralytic affection. The alteration of the blood in diphtheria, teething, diseases of the bowels, lungs and pleura, can result in a certain degree of paralysis; complete paraplegia, without diminution of voluntary movements elsewhere, cannot be due to a cause circulating everywhere in the body. When, after an exposure to cold and wet, a man is suddenly seized with paralysis, without having the least symptom of rheumatism, we have no right to place his affection in the vague group of rheumatismal paralysis. The paraplegia connected with pain in the skin, joints, or trunks or nerves, is erroneously ascribed to a central affection of the spinal cord, for it is caused by real inflammation.

While all these propounded explanations, therefore, are inadmissible, it can easily be shown how paralysis takes place, by reflex influence, through an irritation starting from a sensitive nerve. This may happen in two ways: either by reflex contraction of blood-vessels, or by a morbid reflex influence on nutrition. Blood-vessels contract with energy, and sometimes even are seized with real spasm, either by a direct influence of their motor nerves, or through an excitation which, from some centripetal or excito-motor nerve, has been reflected upon them by the cerebro-spinal axis. This contraction of the blood-vessels causes paralysis in the spinal cord, in the motor nerves or in muscles. Thus a tightened ligature applied on the hilus of the kidney, or on the blood-vessels and nerves of the supra-renal capsule, induces contraction of the blood-vessels in the spinal cord, and consequently paralysis of the corresponding lower limb. Probably irritations, starting from the urinary and other organs, produce paraplegia in the same way. The reflex influence of nutrition is proved by many pathological facts and experiments on animals; it seems, however, to be a rare cause of paraplegia, except in wasting palsy (progressive muscular atrophy.) But this influence may take place at any moment, in the course of a reflex paraplegia, so long as the irritating cause has not ceased to act, and a myelitis, or some other affection may be generated by it.

In the treatment of reflex paraplegia, it is to be recollected that there are two groups of this affection: one in which the amount of blood circulating in the spinal cord is too considerable, and another in which the opposite condition exists. Of the various remedies, which are too often blindly employed, there are some that diminish the quantity of blood in the spinal cord, such as

mercury, the ergot of rye, and belladonna; while others, such as strychnine and brucine, increase that quantity. It is quite evident that, to employ a remedy of either of these two kinds, in both of the two groups of paraplegic cases, is a most dangerous thing. Reflex paraplegia is usually accompanied and most likely produced by an insufficiency of the amount of blood in the spinal cord. It ought not, therefore, to be treated by those remedies which diminish the quantity of this fluid in the spinal nervous centre. (*Savannah Journal of Medicine.*)

REPRODUCTION OF THE INFERIOR MAXILLARY BONE.—The May number of *Championnière's Journal* contains further interesting reports of successful operations for the reproduction of bone:

Mr. Maisonneuve laid before the Academy of Sciences another instance of the reproduction of bone; in this case, the right side of the inferior maxillary was extracted *in toto*, with the articular condyle, and has been so perfectly replaced by the efforts of nature, that it is now almost impossible to discover which side of the jaw was removed by the surgeon. The patient was aged thirty-five, a circumstance which imparts additional interest to the case, inasmuch as the regeneration of bone at that period of life is less active than in youth. Another singular detail is the preservation of the teeth, which were left by the operator attached to the gums, as movable as a string of beads, and became subsequently consolidated by the closing in of the ossified layers, secreted by the periosteum. Unfortunately, after having performed their functions for a space of two years, they one after another dropped out, but the patient nevertheless manages to masticate his food and to speak distinctly.

In another case related to the Academy, of reproduction of both tibia and fibula, it is interesting to notice that both malleoli were included in the part removed.

INFLAMMATION SUCCEEDED BY NEURALGIA.—The following remarks by Dr. Alexander H. Stevens, at the Academy of Medicine, reported in the *Medical Times*, relate to an important subject, on which we thoroughly concur with him, and regard them of very great importance:

Every inflammatory disease, if treated too long, becomes neuralgic in character, a new train of symptoms arising, which are supposed to be the continuation of the inflammation. There is a turning point in every disease, which if overstepped by too active treatment, will not get well. A case illustrating the principle, was that of a lady who sprained her ankle. I had come from Dr. Physick's lectures, fresh with his lessons upon the importance of rest, and I kept the joint at rest. The treatment was persisted in for a very considerable length of time, until she could not rest her foot upon the floor. Various remedies were recommended by dif-

ferent surgeons, but I was not relieved from the difficulty. Her husband was lost at sea about that time, and a pressing necessity arose, *volens volens*, for her to leave the house and attend to pecuniary matters. From that moment she began to improve, and in the course of three months was as well as ever. My rule in the treatment of joints is this: I treat the part antiphlogistically for a week or two, after which I do not pretend to restrain motion. If then this motion is productive of great pain, irritation, or perhaps the foreshadowing of a relapse, a rest to the joint of twenty-four hours is generally all that is required to interrupt the further course of treatment.

These remarks by Dr. Stevens, which he intends to apply to inflammatory affections generally, not merely to diseased joints, belong with especial force to sprained ankles. In the treatment of sprained ankles, we regard it indispensable that there should be absolute rest at first, with antiphlogistic treatment; and then the patient can safely begin to use his foot when the evidences of inflammation have disappeared. The most common error is a half-and-half treatment at the outset, a partial rest. When the inflammation has subsided, it may be necessary to insist on the use of the limb, cautiously, in spite of some pain produced by it at first. In old sprains, when the patient has been months and even years on crutches, the pain on first using the limb is very great, and it often requires considerable force of will on the part of the physician, and confidence on the part of the patient, to induce her (for it is most apt to be a woman) to persevere in walking in spite of the pain.

DISEASES INCIDENT TO TROOPS.—The bullet is not nearly so fatal to an army as disease. The carefully prepared statistics of foreign governments upon this point, are reëssuring to the soldier, and show him how much depends upon himself in this question of mortality. Even at this day, with all the improvements in fire-arms, and the wonderfully increased efficacy of the means of warfare, it is not the killed and wounded which disable an army, but rather disease. "The diseases which attend armies or molest soldiers in camps, garrisons and hospitals, and which so often decimate their ranks, and even at times, almost annihilate whole regiments, are the different kinds of fevers; especially typhus, typhoid, dysentery, diarrhœa, and scurvy." In the Crimea, the British army lost over 33,000 out of 94,000 engaged; of these only 2,658 were killed in action; 1,761 died of wounds; while of the rest, over 16,000 died of disease, and 13,000 went home on account of sickness. Of the French army, 7,500 died in action, or from wounds received; 50,000 from disease, and 65,000 were sent home for sickness.

In the late war with Mexico, our own army met with the loss of ten men from disease, to one in battle or from wounds. About 1,500 only were killed in battle or died from wounds, while nearly

15,000 died from disease, and over 10,000 were discharged on account of sickness.

The disease incident to troops becomes, then, a most important study; and the offices of a physician are next in importance to those of the commander-in-chief. (*American Medical Monthly.*)

FOOD IN FEVERS—SERIOUS EFFECTS OF ABSTINENCE.—Times are changed. Englishmen and Americans left off starving fevers some time ago, under the lead of an Irishman. Now the French are following in the same track. They are very apt to lead in pathology, as in therapeutics they are often behind.

Mr. Hérard says at Hotel-Dieu, as we learn from *Championnière's Journal*, (which is, by the way, an excellent mirror of Paris Hospitals and Societies,) that in the management of typhoid fever the all-important, the capital question, is that of food. Despite the wise precepts of Hippocrates, despite the recent researches which have only confirmed their value, we are still all more or less influenced by the now exploded doctrine of irritation. The terms fever and food still appear to imply a contradiction, although it is but too certain that in typhoid prolonged abstinence leads to the most disastrous results.

Some ten years ago, Mr. Hérard was in attendance on a lady suffering from a moderately violent attack of typhoid fever. Cerebral symptoms having set in, a consultation took place, and an eminent professor of the School of Medicine recommended absolute abstinence from food, and the daily exhibition of one or two glasses of Seidlitz water. The latter part of the prescription Mr. H. took upon himself in some degree to modify, but the abstinence was strictly enforced.

After two or three weeks' treatment, the pulse rose from 110 to 120, nocturnal agitation set in, with wandering delirium, vomiting and diarrhoea. On the following day the frequency of the pulse increased to 145, vomiting became incessant, the diarrhoea incoercible, the delirium constant; the tongue was red, and thrush appeared over the entire mucous lining of the mouth. Another consultation was deemed expedient; the three gentlemen whose opinion was expected, viewed the case in a different light. One pronounced the patient to be suffering from softening of the stomach; the others, struck by the pinched countenance, the emaciation of the entire body, and the cough which had set in, in the incipient stage of the disease, believed in galloping consumption, and proposed cod-liver oil.

Mr. Hérard, who had long been acquainted with the patient, surmised that the previous protracted abstinence might possibly have some share in the aggravation of the symptoms, and determined upon trying the effects of nutriment. He found it almost impossible, at first, to carry out this plan, and it was with the utmost difficulty that a few drops of iced beef-tea were swallowed.

He succeeded, by dint of perseverance, however; and when the food remained on the stomach, and in proportion to its increase, the pulse fell from 145 to 130, 120, 115 and 100; the delirium yielded, and, in short, the patient recovered.

Mr. Marotte has established that vomiting, diarrhæa, and delirium, more especially the latter, are characteristic of starvation. Mr. Trousseau also lately pointed out the striking analogy existing between the more serious symptoms of typhoid and those of autophagy consequent upon protracted abstinence.

EDITORIAL.

HYGIENE FOR THE ARMY.

It is a fact, well known to those who have had occasion to observe the operations of armies and examine the results of military campaigns, that in war sickness is immensely more destructive than battle. And during the last month it has been amply set forth to the American people by the newspaper press, which has frequently called general attention to the existence of the perils which beset the health and life of the soldier.

It is our duty, as medical men, to point out, rather more particularly than the general press can be expected to do, the sources of these dangers; which we shall briefly do, as a reminder to our professional brothers attached to the service, and with the hope also of exerting a wholesome influence through the general press, —which naturally looks to medical journals for instruction upon such subjects.

The perils to health are the same which threaten men at home, immensely increased by the peculiarities of camp and garrison life. They consist chiefly of improper food, improper clothing, uncleanness, and foul air to breathe.

The quality of the food is regulated by the Commissary Department, and when it is in any way unsuitable, it is beyond the power of the common soldier to remedy the evil. It is, however, well worth the attention of regimental surgeons, who can and should be acquainted with the character of the rations, in order to be able to report to the proper authorities anything in them which is liable to interrupt the health of the men.

The clothing of the soldier is also a matter which is regulated mainly by Government. Yet it is in the power of regimental officers to make the men safe and comfortable or the reverse, in respect to their clothing. And here again is a matter that, in our opinion, comes within the province of the surgeon to advise. If he is worthy of his commission, his opinion upon such matters

will be received with respect and attention by his Colonel. The most important item in the clothing is, that every man should be fully clothed in light flannel during the summer season. There is no safe substitute for woollen in a life so exposed to frequent vicissitudes of weather. A writer in the *Boston Transcript* has expressed himself very sensibly upon this subject, in the following words :—

“A very great fault I found in all the shirts I have seen, is that whilst plenty full enough across the chest, they are entirely too short. They ought to be long enough to cover entirely the abdomen and protect the vital organs within it. The full and great importance of this I fear I cannot cause to be appreciated to its whole extent. I can only say that I consider that half if not more of the attacks of the diseases peculiar to hot climates are owing to exposure of the surface of the abdomen to changes of temperature. This is founded upon the experience of three years within the tropics, and double that space of time in hot climates, during nearly the whole of which period I had opportunities of daily observation on more than five hundred men affected at times with almost every variety of tropical disease.

“As an instance of the effect of these changes of temperature, I have noted that the attacks of cholera-morbus were not most frequent under the influence of steady heat, no matter how intense. But when the weather was hot during the day and early part of the night, and the men were exposed to sudden gusts of cold air, say from a mountain gorge, the attacks of this disease were very numerous, but never assailing those who were provided, (as many were, under orders of the medical staff,) with a broad, thick, woollen belly-band. As another illustration, I remember, on one occasion, just as a ship was about to sail from England, Lord Nelson discovered that the flannel shirts were six inches shorter than the regulation required. He, eminently careful of the health of his men, refused to go until he was furnished with the proper kind. The rest of the fleet had gone. He was satirized, called an old fogey, &c. He got his shirts, however, of the right length, and, whilst the rest of the fleet was decimated by dysentery, he had not a man sick. To estimate the matter in a military point of view, his ship, in efficiency, was as good as any two others.”

This agrees with the experience of intelligent officers who have served many years in India. Hodson, a major of Horse, one of the noble fellows who fell in India in the late war, speaks again and again of the luxury of flannel shirts, and begs his friends, whenever they are at a loss what delicacy to send to their friends in the army, to choose flannel.

The next point is cleanliness. Personal uncleanness contributes largely to the production of sickness in camp. The men lie down in their clothes; consequently they may not be stripped oftener than once a week, and doubtless many who are lazy or indifferent never do expose their skins to water or air oftener than that. It is easy to see that it may be inconvenient to observe even decent cleanliness, and it is all the more incumbent upon the surgeon to give this important preventive of sickness his special attention.

Last is the foul air of tents and barracks, made foul by the accumulation of various kinds of filth around them, especially in a permanent camp, and still more by their faulty construction, which permits no proper ventilation. We are inclined to think there is

a general opinion that a canvas tent is a very airy place. It is fortunate for the soldiers that there are some openings at the ground through which a little of the pestilential air within can be replaced by the atmosphere without. Were it quite tight, its inmates would be dead in the morning. After half a dozen men have slept as many hours in a tent, the air which rushes out when you draw its curtain to enter, stinks like that which salutes you as you open the door of a shanty in which a woman and six children, with a pig and a cooking stove, have passed the day. It is like the foul bedrooms, 6 by 8, that the medical man has entered many times (shame on our civilization that it can be said!) in the morning, to visit some dirty, sweaty, ignorant patient—like this, only worse, inasmuch as six men will spoil more air than one.

These are the causes of fever and dysentery, the pestilence of camp life. And that armies are always in better health while on the march than in camp, is due to the absence of some of these nuisances. They cannot always bivouac around camp-fires, which has always been wholesomer than living in tents; but their tents can be constructed so as to furnish a constant supply of pure air; and here also, the advice of the surgeon can be given and will doubtless have its weight. It is a subject which should engage the attention of scientific men. There can be no difficulty in such a construction of tents as shall furnish pure air to the inmates. The only difficulty is in the lamentable lack of appreciation of the importance of hygienic measures, which is so common in the medical profession at home, that there can be little hope that it will sufficiently engage the attention of the medical men attached to the volunteers.

With this feeling, which we cannot avoid, we look with much interest toward the operation of the National Sanitary Commission, appointed by the Secretary of War, for the special purpose of looking after these very matters which we have been discussing, with others of similar importance. The Board has been appointed at the request of the Medical Bureau at Washington, who are fully alive to the necessity of the aid of intelligent men to perform some of the extraordinary duties created by the sudden formation of so large an army. We rejoice that here, as in other forms and on other occasions, men of character, intelligence and learning, have come forward and interested themselves thus patriotically in the nation's cause. In no other way can the country be more effectually served at this juncture, than in well-directed efforts to diminish the sickness and mortality of our brothers-in-arms. We append a list of the commission, and we should not omit to notice that its members render their service without fee or reward. Mr. Olmsted has consented to act as Resident Secretary and General Agent of the Commission at Washington.

The National Sanitary Commission consists of the following gentlemen. Henry W. Bellows, D. D., President, New York; Prof.

A. D. Bache, Vice-President, Washington; Elisha Harris, M. D., Cor. Secretary, New York; Geo. W. Cullum, U. S. A., Washington; Alexander E. Shiras, U. S. A., Washington; Robt. C. Wood, M. D., U. S. A., Washington; Wm. H. Van Buren, M. D., New York; Wolcott Gibbs, M. D., New York; Sam'l G. Howe, M. D., Boston; Cornelius R. Agnew, M. D., New York; J. S. Newberry, M. D., Cleveland; Geo. T. Strong, New York; Frederick Law Olmsted, New York.

MEDICAL NEWS AND MISCELLANY.

The Annual Meeting of the Berkshire District Medical Society was held in the Town Hall at Lenox, on Wednesday, June 26th. The following officers were unanimously elected for the ensuing year:

President—Clarkson T. Collins.

Vice President—Timothy Childs.

Secretary—R. Cresson Stiles.

Treasurer—A. M. Smith.

Commissioner on Trials—Henry H. Childs.

Councillors—H. H. Childs, H. L. Sabin, E. B. Root, J. L. Miller.

Censors—Timothy Childs, L. S. Adams, F. A. Cady, C. C. Holcombe.

Delegates, to attend the Examination of the Graduating Class at the next Commencement of the Berkshire Medical College—George C. Lawrence, O. E. Brewster.

The preliminary course in the Berkshire Medical College commenced on Thursday, June 13th, conducted by Professors H. H. Childs, T. Childs, Ford and Stiles. The Lecture Term will commence on Thursday, August 1st. The introductory lecture will be delivered by Prof. C. L. Ford. Dr. T. Childs will give particular attention to Military Surgery.

SURGEONS OF VOLUNTEERS.—We cannot doubt that the character of the medical staff of the Volunteers is generally very good, since Examining Boards have been instituted by many states. Among the surgeons in service are several well-known gentlemen, who have acquired high reputation as medical teachers, or in other public positions. We have observed the names of Professors John C. Dalton, Frank H. Hamilton, Gilman Kimball and E. K. Sanborn, and Dr. Luther V. Bell, as attached to different regiments. Prof. Wm. A. Hammond, who adorns the chair of Physiology in the University of Maryland, for which he left the army several years ago, has again passed his examination, and been enrolled as Assistant-Surgeon, U. S. A.

MILITARY APPOINTMENT.—Dr. William J. Dale, of Boston, has been commis-

sioned by Governor Andrew, Surgeon-General of the forces of Massachusetts, with the rank of Colonel.

EXAMINATION OF ARMY SURGEONS.—The Secretary of War has instructed Surgeon-General Finley to convene immediately at Washington an Army Medical Board, whose duty it shall be to examine all persons referred to it by the Department as applicants for Brigade Surgeons, and report; and the appointments shall be made only from among those who shall be so examined, and reported by the Board as qualified.

A similar Board is to be instituted, consequent upon various complaints reaching the Department, of the incompetency of regimental surgeons who have been appointed either by the commanding officer or the governors of states. The Board will examine the surgeons of whom complaint is made, in order to secure their dismissal if found incompetent.

VACCINATION OF VOLUNTEERS.—Dr. Henry A. Martin, of Roxbury, who has devoted himself exclusively to vaccination for several years, and has great facilities for it, offered to the medical staff of Massachusetts to vaccinate all volunteers without charge; but his liberal offer was rejected, with an intimation that they could attend to their own business. We see that Dr. Kimball, of Lowell, one of Gen. Butler's surgeons, has requested Dr. Martin to come there and vaccinate those who are unprotected, as varioloid has appeared in a few cases.

LOWER EXTREMITY LENGTHENED BY NECROSIS.—Dr. Sayre has lately presented to the Brooklyn Medico-Chirurgical Society, an account of a case of necrosis of the femur in a lad of seventeen years of age, in which he had operated for the removal of the sequestrum. The most remarkable feature in his case was the exuberance of the new bone in the longitudinal direction, exceeding its fellow three and a half inches, whereas its circumference scarcely denoted the presence of a sequestrum, so little was it enlarged. (*Medical and Surgical Reporter.*)

BREAD RAISED BY THE FORCIBLE MIXTURE OF CARBONIC ACID GAS.—Dr. Gardner presented to the Academy of Medicine a specimen of bread made without fermentation, by simply impregnating a mixture of flour and water *in vacuo* with carbonic acid gas. The process is similar to that of manufacturing soda and mineral waters. It is very necessary to exclude air: otherwise the bread will have an unpleasant taste. The bread can be supplied at the shortest notice, without the use of the hands, a barrel of flour being mixed in the space of five or ten minutes by the machine, and the supply is only limited by the size of the ovens. It is non-fermentable, which circumstance, as well as its rapidity of preparation, renders it a valuable article for a travelling army. It can be seen at the corner of Fourteenth street and Third avenue, New York. (*American Medical Times.*)

CONNECTION OF SCARLET FEVER WITH ACUTE ENTERIC FEVER.—Dr. Richardson read a paper to the Epidemiological Society of London, (*Lancet*), upon

the subject of scarlet fever. One point which he spoke of, was its connection with acute rheumatism, in which he gave his own experience, and that of Golding Bird, and other Englishmen. It is, we believe, a new complication, and the two diseases have not been noticed in conjunction in this region until within two or three years. We shall be glad of any information on the subject.

PUS-CELLS IN THE ATMOSPHERE A MEDIUM OF INFECTION.—Dr. Eisett, of Prague, had charge of the Foundling Hospital at Prague, where, last winter, 92 children out of 250 had conjunctival blenorrhœa, notwithstanding the strictest precautions against communication. Examining the air of one of the wards with Mr. Pouchet's aeroscope, improved by Purkinje—a contrivance by which a determined quantity of air is driven against an adhesive surface, where it leaves all the solid particles it contains—he arrested a number of minute pus-cells, which had been floating in the air, and without doubt had served to propagate the epidemic. (*Championniere's Journal*.) Strikingly suggestive of the "red fog," which the skilful Ehrenberg has traced back from the air of the North Atlantic to the animalculæ of the dessicated pools of the South American plains. Like that, only that Ehrenberg's discovery is no fable, this has a very suspicious odor—very like a hoax—*canard*, they call it now-a-days. But the Imperial Society of Medicine of Vienna is to commence a series of experiments on the subject, and we shall know. Dessicated pus-cells floating in the atmosphere! Now some enterprising man must contrive a practicable strainer for infected atmosphere. Floating pus-cells! Enabled to float in the air, probably, by the gases of decomposition with which they had become distended. Strange, how little we knew of the real structure of pus-cells, to be ignorant of the possibility of such an ascensions after such a distension.

ANTI-TOBACCO ORGANIZATION IN FRANCE.—An anti-tobacco organization is now forming throughout France, and the men that give tone to society there belong to it, such as physicians, lawyers, savans, academicians, state councilors—all resolved to wage unceasing war on that enemy to the health and pocket of man, the weed. If these reformers curtail its consumption, the result will be speedily felt in the public revenue, for the annual income from this source alone comes very nearly \$40,000,000.

PERIODIC LEUCORRHOEA IN A CHILD.—Catherine K., æt. 6 years, is reported by Dr. Jacobi to have anæmia, with excoriations at the introitus vaginae. At regular monthly intervals, is reported to have a copious leucorrhœal discharge for several days. After eight weeks' tonic medicinal and hygienic treatment, her outward symptoms had all disappeared, and nothing more was heard of her leucorrhœa. (*American Medical Monthly*.)

ABSENCE OF THE UTERUS—THREE CASES IN ONE FAMILY OF FIVE SISTERS.—This unusual malformation exists in the persons of three sisters, all married women, patients of Dr. R. Nelson, of New York. They are all thin, but have no other external peculiarity. They have never menstruated, nor borne chil-

dren. They have, however, sexual appetites, which are, in one of them at least, decidedly strong. In each case, the vagina forms a perfect cul-de-sac, and no uterus whatever is discoverable by examination, with the aid of a catheter in the bladder, and a finger in the rectum. In one of the cases the physician states that for a few days, about every three weeks, her mammæ, which are rather small, become fuller, sensitive, and if handled produce a pleasurable excitement.

They have one married sister who has three children, and another unmarried, who has apparently no malformation. (*Ibid.*)

REDUCTION OF STRANGULATED HERNIA BY INVERTING THE PATIENT.—A correspondent of the *London Lancet* furnishes another case in which he succeeded in reducing strangulated hernia by half a minute's gentle pressure on the tumor while the patient was placed upon his head, after unsuccessful efforts at reduction had been made in the usual position.

FISKE FUND PRIZE ESSAY.—At the late annual meeting of the Rhode Island Medical Society, the Fiske Fund Prize was awarded to Daniel D. Slade, M. D., of Boston, for the best essay on "Aneurism." The same gentleman received the prize of the Fiske Fund last year, for the best essay on Diphtheria.

EXCHANGES RECEIVED.—Boston Medical and Surgical Journal; American Medical Times; American Medical Monthly; Journal of Materia Medica; Journal of Practical Medicine; Medical and Surgical Reporter; Lancet and Observer; Chicago Medical Examiner.

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THE
BERKSHIRE MEDICAL JOURNAL,

EDITED BY

WM. HENRY THAYER, M. D., AND R. CRESSON STILES, M. D.

"Ore trahit quodcumque potest atque addit acervo."

VOL. I.

AUGUST, 1861.

No. 8.

PROCEEDINGS OF SOCIETIES.

MASSACHUSETTS.

BERKSHIRE DISTRICT MEDICAL SOCIETY.

The annual meeting of the Society was held in the Town Hall, at Lenox, on Wednesday, June 26th. The President, Dr. C. T. Collins, in the chair. After the approval of the minutes of the last monthly meeting, and the reading of the minutes of the last annual meeting, the reports of the officers for the year were read, and discussed.

Messrs. J. L. Miller and A. M. Smith were appointed a special committee on the financial affairs of the Society.

The time of the annual meeting was changed to the second Wednesday in May, so as to precede that of the State Society.

The following officers were chosen for the year ensuing :

President—Clarkson T. Collins.

Vice President—Timothy Childs.

Secretary—R. Cresson Stiles.

Treasurer—A. M. Smith.

Commissioner on Trials—Henry H. Childs.

Councillors—H. H. Childs, H. L. Sabin, E. B. Root, J. L. Miller.

Censors—Timothy Childs, L. S. Adams, F. A. Cady, C. C. Holcombe.

Delegates, to attend the Examination of the Graduating Class at the next Commencement of the Berkshire Medical College—George C. Lawrence, O. E. Brewster.

Dr. L. S. Adams presented an interesting specimen of fibroplastic tumor of the ovary, weighing fifteen and a half pounds,

which from the rapidity of its growth had proved speedily fatal. The specimen was donated to the museum of the Berkshire Medical College.

The time of the Society was spent mainly in the discussion of business.

Dr. Collins extended an invitation to the Society to hold its next monthly meeting in Great Barrington, and the Society adjourned, to meet in that place on the 24th of July.

VERMONT AND NEW HAMPSHIRE.

CONNECTICUT RIVER VALLEY MEDICAL ASSOCIATION.

The Association met in Keene, on the 3d of July, at 9 1-2, A. M. Wm. Henry Thayer, President, in the chair.

Drs. Edward Aiken, of Fitzwilliam, Samuel A. Richardson, of Marlboro, A. S. Carpenter, of Keene, and Willard Adams, of Swanzey, were elected members.

Dr. Twitchell, of Keene, read an interesting case of rupture of the vagina at the margin of the uterus, during labor, apparently due in part to the attachment of an encysted tumor of half a pound weight, containing fat, epithelial scales and hair, to the upper part of the vagina. The patient had been low in health for several months previous. After unsuccessful attempts to apply the forceps, Dr. T. turned and delivered by the feet. The child was dead. The uterus contracted well, but the mother died in five minutes after delivery.

Dr. Kittredge, of Keene, exhibited a piece of india-rubber, as large as a goose-quill, and seven inches long, which he said he had extracted by means of Civiale's lithotrite, from the bladder of a man who had been using it as a bougie.

The members being called upon in turn for oral communications, and especially questioned upon the prevalence of any epidemics in their respective towns,

Brattleboro was replied for by Dr. Gale, as having had for some time past an epidemic of whooping cough and of measles.

In Putney, Dr. Holton reported much scarlet fever lately and still present, and that two of his cases had been complicated with diphtheria.

In Ludlow, Dr. Chapin reported no epidemics during the past year, except one of acute jaundice last winter, of which he treated about thirty cases. It was attended with vomiting, headache and obstinate constipation, and attacked in some instances whole families.

In Windsor, Dr. Phelps reported that within the last two or three months, catarrhal pharyngitis had been very prevalent, but there had been no diphtheria.

In Claremont, Dr. Jarvis reported no epidemics. He presented for the examination of the Society, a boy of fourteen, about whom he gave the following particulars: He had suffered for several months a convulsive attack, beginning with a cough, almost immediately stopped by a spasm of strangling, causing him to rush to the window for air. At first, the paroxysms had recurred daily and been very severe—latterly they had not returned every day, and were somewhat milder. No other symptoms had manifested themselves, connected with any of the functions, and the boy had the general appearance of health. A variety of treatment had been pursued, including irritation of the skin over the larynx with tincture of iodine, irritation and application of belladonna over the cervical vertebræ. Dr. Thayer considered the case one of laryngismus stridulus, but the exciting cause was not apparent. He suggested the use of sulphate of quinia, and a direct application to the larynx of a solution of nitrate of silver, forty or fifty grains to the ounce, to diminish its sensibility.

In Charlestown, Dr. Webber reported no epidemics. He related the following history of a recent peculiar case:

A boy about four years old went to bed one night, apparently as well as usual, but was attacked in the night with violent pains in the bowels, with severe griping, diarrhœa, general heat, spasmodic tremors in the limbs, partial stupor, loss of sight, with great dilatation of the pupil, and great insensibility of the eye to light. This state lasted with but moderate abatement till the afternoon of the second day after, when for the first time he had a quiet nap of half an hour's duration. After this, the nervous symptoms rapidly lessened. The tremors of the limbs soon ceased, and the eye recovered gradually the power of vision, though with increased sensibility to light, a full exposure to which could not be borne with comfort for many days. The diarrhœa, however, on the third day passed into severe dysentery, the discharges consisting mostly of blood and mucus, with a copious mixture of bright green slimy matter, much resembling the minute confervous vegetation found on the bottom of stagnant pools in summer. Under careful treatment this state of the bowels was slowly overcome, or ceased, and at the end of a month from the time of the attack, the various functions were performed with tolerable regularity, though the patient was still very weak and much emaciated.

The symptoms seemed to denote poisoning by some acrid narcotic, and among the earlier discharges from the bowels was something resembling in appearance chewed leaves, mixed with some scybalous matter. A very careful inquiry, however, failed to give any information as to the facts of any such substance having been taken into the stomach, further than that an older sister had given

him some checkerberry (*Gualtheria Procumbens*) leaves, of which she was eating some herself. The only other disturbing circumstance that had occurred to the boy was, that on the afternoon of the day preceding the attack, in coming down a flight of quite steep and narrow stepped stairs, his foot had slipped and he slid down three or four of the lower steps on his back. He picked himself up, and whimpered a little to his mother about it, then lay down and had a good nap, as was usual with him at that time of day, and on awaking seemed as well as usual, and so continued till in the night. His back showed no appearance of any bruise, but after the application of the red ointment of the iodide of mercury, which was rubbed pretty freely on the back of the neck, a purple spot larger than a dollar, though without swelling, showed itself on the right side of the back of the neck, seeming, however, to be merely cuticular, as at the end of a week or ten days the cuticle peeled off, and the surface underneath looked healthy. A small blister was applied in the treatment to each ankle; that on the right ankle showed a sloughy aspect, and a dry, gangrenous eschar formed, which has not separated at the present time, now a month from the attack.

In Walpole, Dr. Kittredge reported no epidemics.

In Alstead, Dr. Porter had seen no epidemics. He reported a case of severe tetanic spasms in a man, who after recovery asserted that he had taken strychnine with suicidal intentions. He said that he had taken what he had thought was one-third of a teaspoonful of strychnine, and lain down; that his first new sensation—in about twenty-five minutes—was a sudden violent spasm, almost throwing him off the settee upon which he lay, and that five or six equally violent spasms followed at short intervals; that after that they subsided in force, but he continued in a state of rigidity, with moderate spasmodic motion of the extremities. In this condition he was seen by Dr. P. An attempt to feel his pulse threw him into violent spasms, a fly alighting on his face had the same effect. He was at that time unable to express himself intelligibly. The symptoms continued gradually to subside. Eight hours after the commencement of the spasms, he got a dose of sulphate of morphia, which was repeated several times in twenty-four hours, with gelseminum. During the first twelve hours, his body was quite offensive—enough so to nauseate some of those around him. In forty-eight hours all spasmodic action had ceased, but he continued sore and lame for several days. On the second day he got an active cathartic, which was effectual.

[In order to satisfy ourselves of the accuracy of the patient's statement, a few grains of the substance from the bottle which he used was obtained from Dr. Porter and sent to Prof. Seely, for examination, and the following reply has been received: "The sample you sent me responded at once to the ordinary tests for strychnia. After satisfying myself with the chemical, I resorted

to some physiological tests. A few crystals were dissolved in acetic acid, and in the solution largely diluted with water, a young frog was partially immersed. Strong convulsions came on after the lapse of an hour. An aqueous solution was then made—one part of strychnia dissolving in seven thousand parts of water—and thrown into the stomach of a large frog. In ten minutes the animal was powerfully tetanized. A small amount of brucia appeared present, but not more than in other samples in my laboratory.”

There is no doubt, then, that the patient took strychnia; but as to the quantity he either took much less than he reported, or the quality of the strychnia had deteriorated, by partial decomposition—for it was reported that he had had it in his possession for five years.

Setting aside the question of quantity and quality, the case is interesting as a specimen of the natural course of the convulsive action following the use of strychnia in less than a fatal dose—for it will be observed that no medicine was administered till eight hours after the attack, and after the tetanic spasms had been for several hours abating.—*Ed.*]

In Langdon, Dr. Graves reported no epidemics.

In Keene, for the first time for seven years, the winter and spring have passed without an epidemic of scarlet fever. For six or seven years previous, it has begun to prevail in February, and has usually disappeared in May. This year there were several cases out of the village, early in the season, but none in the village. There was an extensive epidemic of whooping cough, in the winter and spring, many of the cases being very severe, and some of them fatal. Following that, measles has become epidemic within the last few weeks. Diphtheria has been present for five weeks past in one locality and one physician's practice only. It has been in five families, three of them in contiguous estates, the houses being not more than ten rods apart. In one family, two children, in another two out of three, in another four, (the whole number,) were attacked. Besides these, there were two cases in two other houses—making ten in all, of which three have died, and three are still sick. One of the ten is an adult.

In West Swanzey, Dr. Comings reported that measles now prevails extensively, and that several cases have been attended with convulsions.

In Fitzwilliam, Dr. Aiken reported the prevalence, during the last six months, of scarlet fever and measles, but no diphtheria.

In Northfield, Mass., Dr. Stratton reported a late epidemic of measles.

Dr. Thayer read a paper on the subject of the treatment of acute dysentery with sulphate of magnesia, and the use of calomel and turpentine.

Printed questions and blanks for the record of the results of epidemics, suitable be presented to the Society for tabulation, which

had been prepared by order of the Society since the annual meeting, were distributed to the members.

After a somewhat animated discussion on the discouragement of quackery, and the requisite qualifications for admission into the Association, with especial reference to the ninth by-law, which requires as a condition of membership, the diploma of a "respectable Medical College," it was

Resolved, That we do not consider the term "respectable," as used in our ninth by-law, to mean any other than a regular Medical College, like those attached to our universities, and whose chairs are filled by men of education and high professional repute.

The Society dined together at the Cheshire House.

ORIGINAL COMMUNICATIONS.

ART. XXIII.—*An Inquiry into the Therapeutic Value of Sulphate of Magnesia, Oil of Turpentine, and Calomel, in Inflammation of the Intestinal Mucous Membrane, especially in Dysentery.* Read before the Connecticut River Valley Medical Association, July 3, 1861. By WM. HENRY THAYER, M. D.

In entering upon such an inquiry, which is confined to certain methods of treating acute and chronic dysentery, it is best to define clearly the disease which is intended. Dysentery, then, is an inflammation of the mucous membrane and the submucous areolar tissue of the large intestine. These coats are more or less thickened and reddened—the thickening is sometimes very great, even three or four times their normal thickness, and is the product of inflammatory exudation in and beneath their tissue, which exudation may be thin and serous, or more albuminous and plastic, and may even result in the formation of pus under the mucous membrane. The mucous membrane itself is deeply reddened and very soon dotted all over with minute superficial ulcers, round and not more than an eighth of an inch in diameter. It is most common to find the mucous membrane deeply red, swollen and covered with these minute ulcers. The inflammation is usually found to extend from the anus upward more or less, sometimes only through the rectum, at others throughout the descending colon also, at others through the entire large intestine. It is rare, however, to find it above the ileo-cæcal valve. This is, in brief, the anatomy of the disease.

The symptoms are generally proportioned in severity to the extent of the inflammation. In a large part of the cases which are

met with in New England, the inflammation is limited to a portion of the large intestine—it is rare to have the whole tract, from ileo-cæcal valve to anus invaded. The rectum rarely escapes. When it is not inflamed, we find tenesmus wanting, and the disease is more manageable. The disease begins with general febrile action, some uneasiness in the bowels, loose evacuations, pain, and in the course of twenty-four hours the characteristic discharges, attended with tenesmus, are established. These discharges are generally small, from one drachm to one ounce of mucus, blood and serum, without fecal matter or odor. When small they are bloody mucus alone, when larger there is often serum with them. As they lie in the vessel they resemble masses of bloody jelly or sometimes broken bits of membrane, and when there is much serum, it is necessary to lift up portions with a stick, when the stringy transparent mucus, more or less stained with blood, is distinctly recognized. The evacuations vary in frequency from the smallest number up to so many that the patient has hardly left the vessel before he is called by another—and the severe pain in the rectum with distressing tenesmus are almost continual. Tenderness over part of the abdomen is a common symptom. It usually marks the extent of the inflammation in the large intestine. Besides the tenderness, however, along the colon, we almost invariably find a spot just below the umbilicus in the median line, which is painful on pressure, evidently not from subjacent inflammation—for the small intestine lies beneath. I have considered the extent of tenderness—indicating the extent of the inflamed portion—a valuable aid in early prognosis, along with the condition of the pulse; but there are cases in which there is no tenderness whatever on pressure over any part of the abdomen, although in all other respects well-marked cases of dysentery.

Dysentery sometimes occurs as a sequel of British typhus, and in these cases it is usually unaccompanied by tenderness. I have seen it so in some of these cases which were fatal after several weeks' illness, and presented after death evidences of intense inflammation of the whole large intestine—thickening, reddening and ulceration.

Tenderness and tenesmus, therefore, may be occasionally wanting; but we always have the characteristic discharges of mucus more or less mingled with blood.

It is not my intention to occupy your time with a complete account of the pathology of dysentery. Since I have said so much, however, I will merely add that vesical tenesmus is frequently a distressing accompaniment of dysentery, and that sometimes we have daily vomiting, but only in very grave cases. Indeed, continued vomiting must induce us to make an unfavorable prognosis.

Such is dysentery, as we see it in the large majority of cases in New England, a painful but not a dangerous disease, if well treated.

There are slight varieties in the character of the evacuations—in the amount of serum, or the occasional presence of bile ; I have seen a case in which the blood was entirely wanting, the discharges consisting wholly, from beginning to end, of thick gelatinous transparent mucus, with tenesmus, pain and tenderness, as usual.

When dysentery is epidemic, we may find it having a much graver type than in the sporadic cases which we ordinarily meet with, and resembling more nearly the severe disease of tropical climates and camps. And we may occasionally meet with a sporadic case of violent and fatal character, just as we sometimes see a sporadic case of cholera asphyxia. I remember seeing a young man attacked with dysentery severely, who, before twenty-four hours had passed, was in complete collapse, cold, livid and nearly pulseless, and on the third day was dead. Such a case belongs to the same class with the congestive form of intermittent fever and the malignant form of scarlet fever. It has an element extraneous to the usual character of dysentery, an element which it in common with other acute affections in the rare instances has of the collapse just mentioned.

These cases are exceptional in their treatment, as they are in their nature. The course of medicinal treatment which I shall recommend does not refer to them, but to the cases of dysentery which we most commonly meet with.

There are three indispensables in the treatment of all cases. These are, absolute rest in a recumbent position, constant warmth of the surface, and a limitation of ingesta to a bland liquid diet.

After these comes the medicinal treatment. I will premise by reminding you that the views on the proper treatment of dysentery have varied from time to time for forty or fifty years, partly by the influence of the medical reports of men of the different countries, who have found so marked a variation in the type of the disease in different climates, that they have naturally advocated entirely different methods, which have sometimes been adopted by others with too little regard to varieties of climate and consequent variations of type. The common methods have also been changed from time to time, for sufficient reason found in actual changes in the character of the disease—which has in one epidemic obstinately resisted treatment to which it has been amenable at another time.

Thus the East Indian treatment was adopted in Europe and America—and in a climate so different as that of New England, and a disease so little like East Indian dysentery, blood-letting and salivation were the standard treatment at one time ; though apparently with no more reason for it than there would be for that treatment indiscriminately at the present time. Cullen considered the troublesome symptoms in dysentery to be produced by the retention of hardened feces, and his treatment by purgatives of a mild character has been much followed. I have sometimes seen

dysentery begin abruptly with discharges of blood and mucus without any previous evacuation of the bowels. In such a case fæces would probably remain and produce more or less irritation. But in most cases there are several loose, more or less fæcal, evacuations, fully emptying the bowels, before the mucous discharges commence; and cathartics, for the purpose proposed, are needless.

Since the morbid anatomy of dysentery has been more accurately known, a revulsion of opinion has taken place in the medical profession. I well recollect the tone of the late Dr. Enoch Hale, of Boston, an earnest pathologist, on the occasion of the autopsy of a man who died of malignant dysentery at the Massachusetts General Hospital in 1843, when the intestine was opened and exhibited an unbroken extent of intense inflammation from the ileo-cæcal valve to the anus, and not a particle of fæcal matter to be seen anywhere—when he denounced in no measured terms the plan of applying active purgatives to such a mucous membrane as that, as a proceeding little short of barbarism. So a considerable part of the profession, with the same views, gave up purgatives, and adopted calomel and opium, acetate of lead and opium, or opium alone. Many holding on to the idea of the scybala, give opium and cathartics on alternate days.

Since 1852, I have followed a very different plan in the treatment of dysentery. My patient is put at once on frequently-repeated small doses of a saline cathartic. I commonly employ the sulphate of magnesia in doses of one drachm, repeated every four hours. The object is not to get rid of scybala. If I had any reason to suspect their presence, I should give a full cathartic dose of castor oil at once. The object is to relieve the inflammation (or if used at the outset, the congestion) of the mucous membrane by procuring a free serous discharge from its surface. That this effect is produced, to the great relief of the symptoms, and usually to the speedy cure of the disease, I have frequent evidence. This will be better understood, if I describe the course. A patient is having frequent dysenteric discharges, with all the other symptoms. He gets one drachm of sulphate of magnesia in concentrated solution, (which is important,) every four hours. The next day I find that his discharges have become large and watery, with little mucus and less blood, are less frequent and less painful. If they have thus improved, I reduce the frequency of the salts, but have it continued every six hours. On the second day my patient has only one or two discharges, watery, and absolutely without blood or mucus. The medicine is ordered once in eight hours, and the next day I find he has had no evacuation at all, and the medicine is omitted. This is the end of the case—for he goes two or three days without any evacuation, if he is careful, and then has a natural discharge. The pain and tenesmus have usually disappeared at the end of the first twenty-four hours, without any

opium whatever. This is the history of four cases in five of dysentery when I see them at the beginning. If the case is more advanced, it does not yield so readily, and may require an opiate at night, while the salts are given during the day.

I have sometimes given the salts less frequently, with less favorable results—I have had reason to think that where the symptoms did not yield, it was because the medicine was taken at too long intervals. I prefer to withhold opium, in order that the salts may have their full effect; during the first day, the patient can be soothed and relieved by sinapisms and fomentations, with flannel band around the body; and after this the pain is relieved.

My own favorable experience of this mode of treatment has been corroborated by others. I am unable to recollect the source from which I first derived the idea, but I have endeavored ever since to disseminate it, and I have had the pleasure within the last six months of seeing the plan advocated in several medical journals.

It is possible that the efficacious use of laxatives is not limited to sulphate of magnesia or to saline substances. I had a theory of their *modus operandi*, derived partly from Golding Bird—that they produced their effect by causing an exosmosis of serous fluid from the inflamed mucous membrane, from which arose the necessity of using a concentrated solution. But some experiments by Headland seem to prove that the salts are taken up into the circulation before reaching the inflamed large intestine, and therefore some other explanation of their mode of action must be sought, which shall equally well account for the successful operation of some other cathartics administered in the same manner—that is, in frequently-repeated small doses. I refer particularly to castor oil. By the recommendation of Dr. West, the accomplished senior physician to the Royal Infirmary for Children, London, I have often found great benefit from the use of castor oil in small doses often repeated, in the dysentery of children. I do not know that the sulphate of magnesia would not operate as well with children as it does with adults, but I have never used it. Dr. West's formula for the castor oil emulsion is the following:—

R. Ol. Ricini, one drachm; Pulv. Acaciæ, one scruple; Syrupi Simplicis, one drachm; Tinct. Opii, four drops; Aquæ Floræ Aurantii, seven drachms. M. Ft. Mistura. A teaspoonful to be given every four hours.

I have employed it with very happy results in many cases of dysentery of a somewhat chronic character in children. It has the advantage of being not unpalatable—children generally take it without any objection.

Like the epsom salts, castor oil in some way reduces the inflammation of the mucous membrane, and the secretion of bloody mucus rapidly diminishes, simultaneously with the abatement of irritation and pain.

I have spoken thus far of dysentery and its successful treatment, as it is seen in a large majority of the cases in New England. I have had but little experience with malignant dysentery or with grave epidemics, for they are extremely rare in New England. I have no reason to think that the saline treatment would have the slightest influence in malignant dysentery. But in most of the cases that are met with during even a serious epidemic, I have little doubt that, if employed early, it will be found as effectual as it is in the milder form that it takes among us almost every summer and autumn. Its use is not inconsistent with the employment of stimulants, when they are required.

If, nevertheless, there are at any time non-malignant cases which do not yield at all to the use of saline medicines, or which, after a partial improvement, continue in a subacute form, what course promises the greatest and promptest success?

Let me first say that if the dysentery has yielded, but the patient is affected with diarrhœa, astringents and antacids with opium are the most appropriate remedies.

If after two or three days' employment of the saline, the discharges continue to be of bloody mucus, and there is little abatement of the other symptoms, it is time to resort to other expedients. In that case, I presume, no treatment promises better than a mercurial—a small dose of calomel with opium every six hours—under which we may reasonably expect a decided change for the better in the character of the evacuations, before enough has been taken to cause any considerable risk of ptyalism, except where there is an unusual sensitiveness to its effects.

I should say that I have very rarely been obliged to resort to mercurials with adults—for I have found very few cases that did not yield to the sulphate of magnesia. But in the "inflammatory diarrhœa" (West) of children, I have frequently prescribed small and repeated doses of calomel with opium, when other measures failed, and usually with promptly good effect.

From some experience with the oil of turpentine, I am inclined to regard it as a remedy very similar to mercury in its effects upon the intestinal mucous membrane. I have employed it more especially in the dysentery of children. When the castor oil emulsion has been taken several days or a week, and the child, after a partial abatement of the symptoms, has ceased to improve, the addition of a few drops of the oil of turpentine to each dose often has a decided effect upon the symptoms, so that the improvement in the evacuations begins again, and in a few days more they have acquired their healthy character and number. This is the history of favorable cases, which in infants are of course less frequent than in adults.

The value of turpentine in chronic inflammations of the mucous membrane is perhaps sufficiently well known. Professor Wood has brought it into notice as a very useful remedy in an advanced

stage of typhoid fever, especially on account of its prompt effect upon the ulcers of Peyer's patches, in promoting their cicatrization.

Three cases of chronic inflammation of the large intestine of moderate extent, mostly in the rectum in two of the cases, have been under my care within a few months past. They were all treated with the oil of turpentine in three daily doses; all began to improve in a few days, and two entirely recovered.

Turpentine is especially useful in dysentery when the first stage of active inflammation has passed, with dysenteric symptoms still remaining, and the patient presenting an appearance of morbid prostration. Exhibiting, in fact, a condition evidently requiring stimulation: feeble pulse, and livid extremities, with tendency to coldness of the surface, and perhaps the tongue dry and the teeth covered with sordes. Dr. Wood makes the dry black tongue and the sordes the indication for the use of turpentine in fever. He says: "There is a particular state of fever usually attended with much danger, in which we have found this remedy uniformly successful. The condition of things alluded to, is one which occurs in the latter stages of typhoid fevers or lingering remittents, in which the tongue, having begun to throw off its load of fur in patches, had suddenly ceased to clean itself, and becomes dry and brownish. The skin is at the same time dry, the bowels torpid and distended with flatus, and the patient sometimes affected with slight delirium. Under the use of small doses of oil of turpentine, frequently repeated, the tongue becomes moist and again coated, the tympanitic state of the bowels disappears, and the patient goes on to recover as in a favorable case of fever. We are disposed to ascribe the effect to a healthy change produced by the oil in the ulcerated surface of the intestines." (*U. S. Dispensatory*, Art.: *Oleum Terebinthine*.)

With regard to the use of calomel in dysentery, there appears to be reason for doubt that its efficacy depends upon any direct influence over the functions of the liver, as is very frequently alleged by medical men, or that the necessity for its exhibition rests on any hepatic complication. I shall only argue against these suppositions by the statement of two or three facts of modern observation.

It has been inferred from the green color of the evacuations that is often seen after calomel has been taken, that an excessive flow of bile had taken place into the intestine, under the immediate influence of the mercurial upon the liver. "The green stools," says Pereira, "which sometimes follow the administration of calomel to children, are usually supposed to arise from the action of this medicine on the liver; though Teller thinks it depends on alterations produced in the condition of the blood. The same colored stools are frequently observed when no mercury has been used, and there does not appear to be any just ground for ascribing

them to the calomel." It will be remembered that one of the first results of a slight exposure to cold in an infant, is the passage of green stools, with griping pain. West says, that in some cases the green discharges probably depend on the action of the acids of the alimentary canal upon the coloring matter of the bile (biliverdine) in the evacuations—which is probably the explanation of these cases of green stools following a chill. When the discharges are greenish in the course of dysentery, Golding Bird's investigations have rendered it probable that it results partly from the presence of altered blood in the evacuations.

Thus we have one fact—that the green stools are very common under various circumstances, unconnected with the use of calomel.

Another fact is, on the authority of Dr. Thudichum, of London, that calomel, whether it purges or not, does not increase the quantity of bile excreted, but on the contrary it diminishes it. If the liver is relieved by the use of calomel, it is through its effect upon the intestines and the portal circulation, just as it would be relieved by other cathartics. This is proved by the experiments of H. Nasse, Kölliker, and H. Müller. The green color of the stools which follow the use of calomel is really due to sub-sulphide of mercury, just as the black color of stools following the use of preparations of iron, is due to sub-sulphide of iron. (*Thudichum.*)

We have, reason, then, to know that calomel does not produce that increase in the biliary secretion and discharge, which many have considered indispensable to the relief of various cases of intestinal disturbance. And we may fairly infer that whatever advantage is derived from the use of calomel, as of turpentine in dysentery, is due to its direct effect upon the capillaries of the intestine, as a special stimulant.

Whether turpentine might not be employed with as great advantage as calomel in cases that seem to require either of them, my own experience will not allow me to say. I have seldom used calomel since I began to treat dysentery with sulphate of magnesia, nine years ago. Calomel would be unsafe in a very advanced stage of the disease, when there was any pus in the discharges, and the vital force was low—while these are the very conditions in which the use of turpentine, a nervous stimulant, would be especially appropriate.

ART. XXIV.—*Rupture of Vagina during Labor; Death; Vaginal Cyst.* Read to the Connecticut River Valley Medical Association, July 3, 1861. By GEORGE B. TWITCHELL, M. D., Keene.

I was called on the morning of Sunday, the 16th of June, to see Mrs. H., aged 36 years, who had been in labor some thirty-six hours, under the charge of a homœopathist; but who, having got discouraged, had given up the case. Upon visiting her, found that she had been in severe pain up to about half past six o'clock this morning, when the pains suddenly almost entirely ceased, and the patient began to feel faint and look pale. I saw her about half past seven o'clock; she was then almost colorless, pulse scarcely perceptible, skin cold and sweating; she was much nauseated, and vomited once or twice after I entered the room, had not before; complained of a severe burning sensation over the whole upper part of the abdomen, and was very tender to touch. Learned from the attendants that she had complained of severe pain just above the pubis but a little while before the pains ceased. This was her third labor: both of the others had been lingering. She was a feeble woman, abdomen very much relaxed, and feet œdematous.

Upon examination, found the head presenting in the first position of the vertex, but apparently at the superior strait; could not touch the os, which was evidently fully dilated and slipped over the head. The posterior part of the vagina was filled with some soft substance, but I could not decide what it was. Decided, as patient was sinking, to deliver with forceps at once, thinking that possibly the child might be saved, as I had no doubt that the uterus had ruptured. Applied the forceps, apparently to head, with no difficulty: in fact, I was surprised to find them work so easily; but upon making moderately strong traction effort, they came away. I then supposed that I had not used sufficient compression upon the handles of forceps, and that they had opened. I applied them again and compressed and fastened the handles with a napkin, but upon making traction, they again came away. I then laid them aside, introduced my hand, and without difficulty reached a foot, brought it down, and in a few minutes delivered her of a still-born male child, weighing about eight pounds. The placenta followed almost immediately, but the patient continued sinking, and died within five minutes.

After death I introduced my hand into the vagina, and found this canal separated from the neck of uterus for more than half its posterior circumference: the hand passed freely into the cavity of the abdomen, in which position I could feel the entire uterus,

which was evidently uninjured and firmly contracted. As the pelvis of the child descended, it forced out of the vulva a tumor fully as large as my fist, which after the delivery of child hung from the vulva attached to the posterior wall of the vagina by shreds of cellular tissue. This tumor would weigh about eight ounces; it was filled with oil and fat of the consistency of soft lard, mixed with a great amount of hair; the lining membrane was thickly studded with hair, and at one point a spiculum of bone about half an inch long and sharp, protruded into the cavity of the cyst.

As to the point of origin of this cyst and the influence it had in producing the laceration, I can only conjecture, as, no regular physician being in attendance, I had no means of learning the state of things at the commencement of labor. From the husband I learned that no attempt to deliver was made, therefore the laceration was not the result of improper interference. I think the tumor was probably a growth from the posterior wall of the vagina near the neck of uterus, and that it was carried forward by the head of child in its descent, until the walls of vagina gave way. I know that this is not the usual seat of such tumors, but as this form of cyst is often met with in dissimilar parts of the body, I know not why it may not appear here, it certainly had a partial attachment to the vagina, and it would appear more reasonable to suppose that it was entirely here; than that it was partially within the uterus. The tumor appeared to have had a broad attachment which had been broken up, as one portion seemed to be torn and the tissue infiltrated with blood; this was probably its attachment near the neck which gave way when the laceration took place. If I am right in my conjecture, the treatment would have been, had the tumor been detached, to have removed the tumor or its contents in the early stage of labor; then there would have been no obstruction to the passage of the child. The reason why my forceps slipped away so easily was because, instead of passing into the cavity of uterus and grasping the head of the child, it passed into the cavity of the abdomen, and only included the occipital projection. The head was so high that I could not by my fingers decide that the forceps was in place, but took it for granted that it was, as the blades locked so readily.

ART. XXV.—*Case of a Rare Form of Convulsions, probably of Eccentric Origin.* By F. N. BURDICK, M. D., Readsboro', Vt.

The subject of the following history—whom I first saw when he was four years old—was a boy of excellent health until about the age of two, when his malady first made its appearance. I learned from his parents, that at that time, without any previous indisposition, he was noticed to stop in his play, his eyelids suddenly drooped, and at the same moment, his head commenced nodding forward till his chin reached his chest, with some bending of the body forward, and then as suddenly straitening up—like a person from sleep—go on with his play as if nothing had happened. These “spasms” were at first mild and occasional, but continued to increase in violence and frequency up to the time of my visit, September 22, 1860.

The turns took place at first once or twice a week, and lasted less than half a minute. Things went on in this way for three or four months without making any inroad on the boy's general health; but after eight or ten months elapsed, he began to give evidence of constitutional disturbance,—his appetite became variable, his bowels irregular, his temper more or less irritable, and it was also noticed that he was growing gradually thin.

The fits occurred whether he was standing, sitting, or abed, but were apt to be worse in the night while lying in bed. He did not lose his consciousness during the spasm, for he would often try to hide the fact of its occurrence from his parents, and even at times play on a jews-harp through a whole fit. This latter phenomenon took place only when the spasm was slight, and before his right arm became implicated in the convulsion.

For the first few months, he exhibited no ill symptom as the immediate effect of the fit, but as the complaint became more confirmed he was for awhile rather stupid and inactive.

Some six or eight months after the appearance of the disease, some anthelmintic was administered, which brought away two small lumbrici, but without any amelioration of the symptoms. A little later than this period, a new feature of the disease presented itself; he was observed to be extremely hungry just before the fit, and if this unnatural appetite could be soon enough appeased, it would often stave it off. On the suspicion of an internal parasite, various anthelmintics were given, but to no purpose.

Upon entering on the second year of his disease, he began to complain of the left side of his head, and about the same time the muscles of the right side of his body—those of the face excepted—began to be implicated in the spasm, also those of the left eye.

The muscles of the face and the right eye remained unaffected through the whole course of the disease. The muscles at fault were invariably the flexors.

During the second year, the spasms increased greatly in violence and frequency, occurring sometimes a dozen times a day—any little excitement, shock, or mental effort sufficing to produce a fit.

At the time of my visit, he was so enfeebled as to be unable to walk, with great emaciation and anæmia—tongue loaded, breath offensive, bowels irregular, appetite almost entirely gone, with a quick and feeble pulse. His spasms were peculiarly interesting, including nervous twitching of the left eye and other facial distortions, and convulsive movement of the muscles of the right arm and leg. During the fit his head bobbed directly forward, while his body inclined a little to the right side. The duration of the spasms was, on an average, perhaps a minute. He complained a good deal of the left side of his head, and of being extremely tired, especially after a fit. His legs were perfectly natural, and his cranium of more than ordinary symmetry. His bowels were at times more or less tumid, and he often complained of them. His parents were both healthy, and always had been, but nevertheless they both bore unmistakable evidence of the scrofulous diathesis, as also did the patient, and I therefore set the case down as being in some way dependent on struma.

I gave him a mild laxative of hydrargyrum cum cretâ and rheum, and the next day began with a tonic treatment by administering the following preparation: Ferri Citratis et Strychniæ, gr. lxx.; Potassii Iodidi, gr. xc.; Aquæ Puræ, four ounces; Olei Menthæ Piperitæ, ten drops; M. A teaspoonful to be given twice a day.

In three weeks the boy was able to run about the house; in four weeks was out of doors, at play, and in six weeks his bowels were regular, his appetite natural, he had regained his usual flesh, the affection of the left side of his head was gone, so also the twitching of his left eye, and the spasm of the muscles of the right arm and leg. The bobbing of his head forward was greatly diminished in violence, and the spasms occurred only once or twice a day, and were so slight as to be sometimes scarcely noticeable. These gradually wore away, and in about ten or twelve weeks he was discharged cured.

About this time another boy, brother to the subject of this article, and two years younger, began to be affected with a bobbing of his head forward, precisely like that which had so nearly proved fatal to his elder brother. He was at the time hearty, and had every appearance of being perfectly well, but this curious nodding. He was treated with the same preparation as his brother, in the same doses, which in a few weeks cured him also of his strange malady.

ART. XXVI.—*Stimulants and Analeptics in Inflammation.* By R. CRESSON STILES, M. D.

The fact that certain forms of inflammation ought to receive a stimulant and corroborant treatment is acknowledged by almost all judicious and experienced practitioners, even by those who do not pretend to reason on the course they pursue in this respect, or whose theoretical views, the result of early instruction, are averse to it under any circumstances. That inadequate views of the nature of this morbid process should have prevailed at a period when the anatomical elements passed without recognition, and no correct ideas could have existed respecting the capillary circulation, might have been expected; that these errors, become classic, should have claimed and received respect, was natural as long as medicine was a science of tradition. Among these errors none was more universally dominant, or more fruitful in mischief, than the doctrine that inflammation is always an "exaltation of vitality," and that it must therefore be met by therapeutical agents such as depress or retard vital action. A better knowledge of the several elements which enter into this morbid process, and of the causes which give rise to it, has shown that this conception of it is exceedingly vague and involves a grave error, and that a most unfortunate one, when we take into consideration the practical consequences which have resulted, and still result from it.

The vitality of a part is the activity manifested by all the various elements of which it is composed; all the properties of its component tissues, and all the functions it performs, must be included in the idea of its vitality. When some of these are impeded, perverted, or abolished, whatever activity may be manifested by the others, it is plainly impossible to represent the state of the part as one of exalted vital action. The attempt to express the state of many independent elements in grades of a hypothetical conglomerate of functions, must have led necessarily to false conceptions of the nature of morbid processes. It was as if a meteorologist were to designate some atmospheric phenomenon,—a thunder storm for instance,—as an exaltation of the weather. His meteorological brethren who were patiently studying by appropriate instruments the temperature and weight of the atmosphere, the amount of moisture it contained, its electrical state, in a word, all the elements which enter into that complex phenomenon we call the weather, and were endeavoring by the comparison of frequent and careful observations to reach the laws which govern its activity, could scarcely be expected to look with favor upon the "exaltation" theory of a dogmatizing coadjutor, who contented

himself with calling the thunder storm, for all practical purposes, an exaltation of the weather. When a morbid process in a gland, for instance, is attended with increased circulation, heat, and sensibility, but its secretion, which is a modification of nutrition, and the most characteristic and important element in its vitality, is diminished, perverted, or arrested, it is certainly improper to represent the process as one of exalted vitality.

In order to obtain correct views of a morbid process, it is necessary that its elements should be recognized, and studied. Mr. Paget uses the following language respecting inflammation: "The very difficulty of exactly defining the process of inflammation may be our guide to the most hopeful method of investigating it. When we see such gradual transitions from the normal process of nutrition to the disease of inflammation, that we cannot draw a definition line between them, we may be sure that the main laws of physiology are the laws alike of the disease and of the healthy process; that the same forces are engaged in both; and that, though interfered with by the conditions of the disease, they are not supplanted or annulled."

This view throws open the question of the nature of inflammation to a truer appreciation than that presented in many works of the highest authority on practical medicine, by bringing the revelations of physiology to bear upon the explanation of the process.

The anatomical analysis of the body shows that every organ is made up of one or more *fundamental* elements on the activity of which the part which the organ plays in life-action depends; and of a number of *accessory* elements, serving mainly for the maintenance and perfection of the action of the fundamental element. Thus in a muscle, the striated muscular fibre is the fundamental element; blood-vessels, lymphatics, nerves, white fibrous tissue and fat vesicles, are accessory elements.

The property possessed by every anatomical element without exception, that without which there is no life, that which gives rise to the forces of life, that upon which all other vital properties must be based, is that of *nutrition*. This consists in a double movement of composition and decomposition, of assimilation and disassimilation, with preservation of the identity of the element.

Nutrition can only be carried on under certain definite conditions varying with the species of element; of these, the principal are a definite kind of nutritive material, a proper supply of atmospheric air, and a certain elevation of temperature. The activity of the process of nutrition is liable to variation within definite limits; when these limits are exceeded, the life of the element is perverted, or its death may result.

It is mainly by the circulation of the blood that the necessary conditions for the nutrition of the elements are supplied. It is manifest, therefore, that the perfection of this process, and even the existence of the elements, requires that the supply of blood

to a part should vary with the varying activity of the process of nutrition; in other words, the state of the circulation in a part will be determined by the nutrition of its fundamental element. To this end the finest capillaries, those through which nutritive material and air pass to the tissues, are constructed of a single delicate, expansible and elastic membrane. Experiment has shown that in tubes of the calibre of the finest capillaries, a very slight change in diameter will produce great variations in the amount of blood transmitted through them under a given pressure. Thus according to Poiseuille, "the force which will only cause the passage of one volume of blood per second in a capillary tube of one two-hundredth of a millimetre in diameter, (about one five-thousandth of an inch) will cause sixteen volumes of blood to flow in the same time in a vessel of the same kind having a diameter of one-hundredth of a millimetre."*

The calibre of the arteries, arterioles, and larger capillaries, is regulated by the unstriped muscular fibre, which is wound circularly about them, forming a second tunic. The state of contraction and relaxation of this fibre is under the control of the nervous system. No modification in the circulation having its origin in the regulation of the supply of blood by this class of larger vessels, is of itself sufficient to constitute inflammation. It is possible by acting upon the nervous system to produce great variations in the amount of blood passing through an organ or a part. When the sympathetic nerve in the neck of an animal is cut, its section is followed by a hyperæmia of the parts supplied by its branches,—the blood vessels are seen to be enlarged, the amount of blood passing through the parts is proved greater, their heat is increased, the blood in the jugular vein loses its dark venous hue. These phenomena may persist for weeks after the section without the development of inflammation. There are no more satisfactory experiments in illustration of the control of the nervous system over the vascular calibre, than those of Bernard on the sub-maxillary gland. This gland is so situated that it is easy to isolate both the cerebro-spinal and sympathetic nerves, by which it is supplied, as well as the vein and duct leading from it, into which latter tubes may be placed for accurate examination of the results of experiment. When the sympathetic nerve of a gland so disposed is cut, the blood is seen to flow in jets and of a bright florid color from the vein, while the saliva is poured abundantly from the duct. If now the same nerve be stimulated by a galvanic current, the blood flows slowly, and of a dark venous hue, and the secretion of the gland is speedily arrested. The hyperæmia produced by acting on the larger vessels through the sympathetic, is not inflammation.

Again, the vein conveying the blood to a part may be obliterated

*Miss Edwards, *Lectures sur la Physique*, Vol. i. p. 173.

erated, and the return of blood impeded or arrested, the part become engorged with blood and effused serum, but this passive congestion cannot constitute inflammation.

If the supply of blood be completely cut off from a part, gangrene will result, but not inflammation.

If, then, it is not to the vascular activity as regulated by the larger vessels, to those grosser mechanical conditions, that we must look for an explanation of the phenomena of inflammation, they must be sought elsewhere. There is no other locality where they can be found than in the truly capillary circulation, in the tubes of finest calibre, and consisting of but one coat, in which the flow of blood is regulated by the nutritive activity of the fundamental element of the part.

That the circulation in the finest capillaries is thus regulated independently of the power of the heart's contractions, and the calibre of the arterioles may be readily demonstrated. If the circulation in a transparent tissue of one of the lower animals be completely arrested by ligatures in the blood vessels, and an irritation be brought to bear upon a portion of the tissue, the blood may be seen to flow from neighboring vessels to the part irritated. This movement can be satisfactorily explained only on the admission of an attraction between the tissues irritated, and the blood stronger than that in the parts not subjected to irritation. We know, moreover, that when the healthy relations between the blood and various organs of the body have been deranged, all the power of the heart is unable to drive the blood through them. The capillaries of the lungs receive all the force of impulsion of the right ventricle; yet, when air is cut off from them in asphyxia, congestion results. By placing an instrument on the arteries by which the pressure of the blood in them may be measured, it can be proved that this congestion is not owing to a diminished pressure from a loss of the heart's activity, but that, on the contrary, the pressure is greatly increased. In asphyxia the mercury rises in the hæmodynamometer, when the instrument is placed on any of the branches of the aorta, and it is certain that the pressure in the pulmonary artery is greatly augmented. We cannot deny that the heart exercises the chief motor power of the circulation, but we must also recognize the existence of an attraction between the blood and the tissues when the latter are in a state of healthy nutrition, which exerts a powerful influence over the motion onwards of the blood in the finest capillaries, and which, failing in unhealthy nutrition, leaves the heart powerless to drive the blood through them. It has been estimated, and no doubt with sufficient accuracy, that the area of the capillaries is eight hundred times greater than that of the aorta at its origin. It is certain that the impediments to the circulation from anastomosis and friction, which become very powerful in the fine vascular ramifications, are sufficient to exhaust the power of the heart to drive the blood through

all the capillary meshes at the same time. The resistance from these causes may be observed on any transparent tissue in the temporary impermeability of certain capillaries to the blood corpuscles, and the slow stream which always occupies their walls in which the white corpuscles are seen to coast leisurely along. The heart is prevented from exerting an accumulated pressure on an obstructed part by the readier permeability of other channels, and the perfection of anastomosis. It is thus that the peripheral extremity of a divided artery can pour out venous blood.

Numerous examples might be cited of similar vital attraction, as in the circulation of the protoplasm within the cells of plants—the attraction between the pollen and the stigma, and the pollen tube and the nucleus within the embryo sac; or the spermatozooids and the micropyle of the animal ovum; or in the conjugation of the cells of the algæ. It is such an attraction which exerts a *vis a fronte*, and produces an active determination of blood to parts in which a healthy nutrition exists. The activity of this determination is regulated by the rapidity of the movement of assimilation, which is proportioned to the stimulation of the part, when it does not exceed the limits of health and result in perversion; in other words, is proportioned to the exaltation of the vitality of the fundamental element. Inflammation may be said to result from an exaltation of vitality, when the over stimulation has terminated in *perversion*, when very different phenomena ensue. By the perversion of nutrition all attraction is forfeited—the blood stagnates in the part—the capillaries still further dilate, and form wide, irregular sinuses, the walls of which seem to have lost their elasticity; lymph tinged with the coloring matter of the altered globules is effused into the meshes of the tissues, and is not absorbed by the lymphatics; the tissues yield before the increasing pus corpuscles, or give place to new formations. This is *inflammation*. The period of stimulation within the limits of health was *active congestion*.

But it is not thus that inflammation is always aroused, and it is on this fact that we wish to insist, that an immediate perversion of nutrition, with all the phenomena of inflammation, very frequently takes place, without having been preceded by the slightest manifestation of stimulation, of exalted vitality, or active congestion. Such results always follow an inadequate or too distant supply of blood; an improper constitution of that fluid, either in the want of the materials necessary for healthy nutrition, or the presence of some deleterious agent which simply impedes the nutritive molecular changes. Thus an absence of phosphate of lime from the blood would infallibly arouse an inflammation of the osseous tissue; or the presence of some agent which would prevent the absorption and assimilation of the phosphate of lime by the bony tissue would lead to the same result, as happens, doubtless, in *rachitis*, in which the phosphate appears abundantly in the urine,

and osteitis progresses in proportion. An affection of the nervous system may modify the nutrition of the anatomical elements, and lead to the same results.

It is universally acknowledged that mortification of large masses of tissue may take place by a direct perversion of nutrition, without inflammation, as in *gangræna senilis*, or in diffused phlegmonous inflammation, in which it is admitted that the inflammation and suppuration are but the effect of the presence of the dead areolar tissue. According to Robin, boils, carbuncles and felons are always preceded by the presence of portions of mortified tissue, the mortification not the result of inflammation, but the primary cause.

Now, all grades of perversion may exist, and consequently inflammation of all grades and degrees of violence—inflammation not preceded by a stage of stimulation, or “exaltation of vitality.”

Again, it is well known that there is no circumstance so favorable to the production of inflammation, whether as the result of over stimulation, or of direct perversion of nutrition, as depression of the nervous system. Experimental physiology has given the rationale of this phenomenon. The sympathetic system is mainly dependent upon the cerebro-spinal for its activity—is not an independent generator of nervous force to any extent. Section of the sympathetic produces hyperæmia, and increased heat—circumstances most favorable to over stimulation. When the powers of the sympathetic are enfeebled, the same results ensue, but in a less degree, as is proved by the action of galvanism upon it. But to a tissue unsupplied with the conditions of healthy nutrition, this stimulation hastens perversion and disorganization. The sympathetic may be cut, and the parts supplied by it remain in a state of congestion merely, for weeks; but if the animal be subjected to starvation, or an inadequate diet, without variety in its composition, or putrid matter be injected into its veins, the congestion passes over with inflammation, ulceration, or disorganization.

The experiments of Chatin upon the effects of poisons on plants illustrate the effect of stimulation in hastening the disorganization resulting from defective or perverted nutrition. Chatin found that when poisonous substances were mingled with the soil, if the plant rooted in it were secluded from the light and air, no evil effect would ensue, with an amount of poison which would cause its speedy death if it were exposed to the sunlight and the air. Thus also stimulation of the nervous system, by contracting the arterioles, and diminishing the stimulation to a diseased, ill-nourished part, has a tendency to lessen the violence of inflammation.

From this brief summary we wish to draw the following conclusions:

1. That inflammation may result from a direct perversion of nutrition, without being preceded by any manifestations of exalted vitality.

2. That in this form of inflammation venesection acts injuriously; for the good effects of a loss of blood are more than counterbalanced by the resulting abstraction of the conditions of healthy nutrition, and the enfeeblement of the nervous system; the diminution of the amount of blood circulating through the disordered part bearing no proportion to the depravation of the circulating medium.

3. That this form of inflammation is to be met by supplying the deficient elements to the blood, and by stimulating the activity of the nervous system, viz., by analeptics and nervous stimulants.

Ample testimony exists, that within a recent period, diseases of perverted nutrition have become more frequent than they were at an earlier day, seeming to follow in the wake of epidemics of low forms of disease. The authority on this point of men who witnessed a period when inflammatory diseases presented a different phase from that now so prevalent, is too high and too unquestionable to admit of a doubt.



SELECTIONS.

Extracts from a series of Papers entitled

HINTS AND OBSERVATIONS ON MILITARY HYGIENE,

Relating to Diet, Dress, Exercise, Exposure, and the best Means of Preventing and Curing Medical and Surgical Diseases in the Army.

BY A HOSPITAL SURGEON OF PHILADELPHIA.

[CONTINUED.]

To Prevent Diseases arising from Moisture.—Let the quartermasters examine very carefully every barrack and refuse house, with cellars containing water, or which have been uninhabited. Attention should also be paid to their being aired and well ventilated.

In the field, the best security is by making trenches around the tents, by which means the natural-moisture of the ground is lessened, and the rain-water is intercepted and carried off without wetting the straw. The soldiers should be allowed plenty of straw, and have it frequently renewed, or, when it cannot be obtained every few days, it should be taken out and well aired. Without this precaution, it will not only grow damp, but soon rot and prove unwholesome. The tents should be thoroughly ventilated daily; if not, it will cause everything to become moist and unhealthy. Oil-cloths spread upon the ground of the tent, and

kept dry, intercept much of the rising vapor. Mattresses should not be laid upon the ground.

Soldiers unavoidably exposed to rain on marches and out-duty should be allowed to make a fire with wood in the rear of the camp. Where the grounds are dry, camps are most healthful on the banks of large rivers, because, in the hot season, those situations have the advantage of fresh air from the water to carry off both the moist and putrid exhalations.

To Prevent Diseases arising from Impure Air.—With regard to the impure air of marshes and other stagnating water, if it is necessary to continue long upon such ground, the best expedient will be to make frequent removes, for, by shifting, the straw will be changed, the men will have more exercise, and the impure animal matter will be left behind, which, in camps, is particularly noxious. As to the cantonments in marshy ground, if the troops must remain there in the dangerous season, it will be better to float the fields entirely than to leave them half dry.

Dr. Rush remarks that the certainty of its good effects is evinced by those low countries in the United States, which are sickly in ordinary seasons, being uncommonly healthy in those seasons in which the low or marshy grounds are covered by an unusual quantity of rain.

In order to preserve purity of air in dysenteric seasons, let there be some slight penalty for neglecting to use the privies, and from the middle of July, or upon appearance of a spreading dysentery, let the privies be made deeper than usual, and once a day a thick layer of earth with lime thrown into them. It may also be proper to order the pits to be made either in the front or rear, as the reigning wind of the season may best carry off their effluvia from the camp. When the dysentery begins to be frequent, the sick should not be sent to one common hospital, as least not in such numbers as may vitiate the air.

Barns and granaries make good summer hospitals. Dr. Rush testifies, from experience, to the advantages of barns for military summer hospitals, in preference to any other buildings. Churches, in common with barns, owe their advantages for military hospitals to the height of their ceilings. The latter are cooler than churches, from having no windows in them, and currents of air are conveyed through them more directly and more easily to the bunks of the sick. Another point to be observed in a fixed camp is to have the regimental hospitals scattered, and not crowded into one village. It may be proper to make the following distinction :

In the first part of a campaign, when inflammatory distempers prevail, those who are taken ill are to be left behind, as such cases least admit of motion, and at the same time are not infectious. But those who fall ill from the end of summer to the decline of autumn, will bear motion, and generally mend upon a change of

air, are rather to be carried with their regiments and dispersed, than collected into one place to breed, and propagate the infection. Dr. Rush considers that these remarks should be qualified. It is true, he observes, that soldiers ill with the hospital-fever are generally benefited by being gently removed in wagons in warm weather, but great mortality uniformly followed the removal of such patients in cool or cold weather, in the same vehicles, in the Revolutionary war of the United States.

As to the disposition of hospitals, with regard to preserving the purity of the air, the best rule is to admit so few patients into each ward, that any one unacquainted with the danger of bad air, might imagine there was room to take in double or triple the number.

This Dr. Rush considers an excellent rule, which should be carefully attended to by physicians who have charge of military hospitals. The neglect of it deprived the United States of several thousand soldiers during the Revolutionary war.

In winter hospitals, chimneys (with open fire-places) only should be used, and stoves never; for though the latter may warm a large ward better and at less expense, yet by scarcely making any draught of air they will be apt to promote its corruption, whereas a fire in a chimney acts like a constant ventilator. Dr. Rush remarks that a strict regard ought to be had to this direction. Dr. Tilton combined warmth and ventilation very happily in the log military hospitals constructed by him in Morris county, New Jersey, by making the fires in a hollow in the centre of the hospitals, and leaving an opening in the roof in a perpendicular direction to them, through which the smoke was discharged. The bunks surrounded the fire-place. After kindling the fire the patient suffered no inconvenience from the smoke. Their short and transient sufferings from this cause were overbalanced by its salutary effects, for it has been proved by Dr. Clark in his treatise upon the diseases incident to long sea-voyages, that smoke checks the propagation of fever from morbid exhalations.

To prevent Diseases arising from Improper Diet.—No order will be able to restrain soldiers from eating and drinking what they like, if they have money to purchase it. Therefore a fundamental rule, and, indeed, almost all that is necessary, is to oblige the men to eat in messes, by which means we may be assured that the best part of their pay will be bestowed on wholesome food.

This method being established, it only remains to take care that the men be supplied with good bread and fresh vegetables during the hot weather.

Vinegar with molasses, or a small portion of claret, or even New England rum, is one of the most useful drinks during the heat of summer, mixed with water. Fresh mutton and beef are useful articles broiled, but fresh pork is injurious, while good salted pork or ham was found by Dr. Rush to be a preservative of the health of the Revolutionary army of the United States.

The chief rule in diet in sickly times is to eat moderately, avoiding surfeits and indigestion.

To prevent Diseases arising from Errors in Exercise.—The greatest fatigue which the soldier undergoes is in making long marches, especially in hot or rainy weather. When the service requires it, such hardships must be endured, but they will be attended with less sickness if care be taken to supply good provisions and plenty of dry straw. At other times when dispatch is not necessary, short marches, before the heat of the day, with proper halts, are so far from harrassing the troops, that nothing can be more conducive to the preservation of their health. In fixed camps, as there is always more sickness from inactivity than from fatigue, it would not be amiss to make proper regulations about the exercise at such times, as our soldiers, left to themselves, are naturally too indolent to use what is fit for them. The exercise of a soldier may be considered under three heads: the first relates to his duty; the second to his living more commodiously, and the third to his diversions.

The first, consisting chiefly in the exercise of his arms, will be no less the means of preserving his health than of making him expert in his duty; and frequent returns of this, early and before the sun grows hot, will be more advantageous than repeating it seldom and continuing it too long, for a camp affording little convenience for refreshment, all unnecessary fatigue is to be avoided.

As to the second article, cutting boughs to shade their tents, making trenches around them for carrying off the water, airing the straw, cleaning their clothes and accoutrements, and assisting in the business of the mess, are all things which, as they must be strictly executed by orders, ought to be no disagreeable exercise to the men for some part of the day.

Lastly, as to diversions, since nothing of that sort can be enforced by order, the men must be encouraged to them, either by the example of their officers or by small premiums, but caution is necessary with regard to excess, especially in hot weather, for nothing is more prejudicial to the soldier, when heated with work, (or amusement,) than to strip, expose himself to the cold air, and greedily drink cold water, especially well-water, which commonly is very cold; river water is less hurtful, as the rays of the sun, to which it is constantly exposed, prevent its being so cold.

Neatness cannot be too much insisted on. Let the soldiers frequently wash their hands, their faces, and their feet, and if the season permit, let them bathe as much as possible in running water.

The Seasons compared with regard to the Health of an Army—In the beginning of every campaign we are to expect, for the first month, at least, that the returns will be considerably higher than if the men had remained in quarters.

After the first fortnight or three weeks of the encampment, the

sickness daily decreases, as the most infirm are already in the hospital, the rest more hardened as the weather is growing daily warmer..

This healthy state continues throughout the summer, (that is till the middle of August,) unless, by some extraordinary exposure to rain, the men get wet clothes or lie wet, in which case, in proportion to the preceding heat, the dysentery will be more or less frequent until October, with more or less intermittent and remittent fevers, which continue until the frosts begin.

Winter expeditions, though severe in appearance, are attended with little sickness, if the men have good clothing, shoes, quarters, fuel, and provisions.

Dr. Rush states that the American Revolutionary war furnished a memorable instance of the truth of this remark. Among nearly two thousand Philadelphia militia troops, whom General Cadwalader commanded on the Delaware, in the winter of 1776 and '77, and to whom Dr. Rush acted as Physician-General, there was but one death, and not more than half a dozen sick, in the course of six weeks, notwithstanding the greatest part of them slept in tents or in the open air before fires, or upon barn or kitchen floors, during the whole of that time.

Hospitals are divided into—1st, General, and, 2d, Flying. To the first are assigned a medical staff, distinct from that immediately attached to the line of the army. The second are those hospitals attached to the army during active operations. Of this class we shall say but little, as they are but make-shifts at best, depending upon many contingencies, on account of being easily removed. During the summer, from June until September, large tents of India-rubber or oil-cloth have been found the most convenient. In some cases large barns, as before spoken of, were found useful field hospitals. Surgeon Mann, U. S. A., says :

"The sick and wounded were as comfortably lodged as they would have been in a dwelling house, and much less incommoded by the heat of the weather, which was very oppressive (1812) at times, during July and August. Through the spacious and lofty rooms, by means of large double doors on each side of the barn, a free circulation of air was admitted, which was not only grateful but salubrious."

The New French Ambulance, or Flying Hospital.—The word is derived from the French *ambulâre*, to walk. The following is a description of the ambulance which was employed by the French army in Algeria. It resembles a large sized omnibus, to be drawn by two or more horses, weighing twelve hundred pounds, but so constructed that it can be detached into separate portions, like an ordinary wardrobe. In the interior we have a row of beds, carrying six or eight men with great ease, but, when crowded, may be made to hold, as in our ordinary omnibus, twice or even three times the number. Each bed is a field-stretcher, or portable cot,

which, by means of the guard, takes the wounded man from the field and fits in its proper place in the ambulance, without any fatiguing change. By having these cots or beds to hold water, being of India-rubber, the patient with a fracture can be carried with great ease. If water cannot be obtained, it should be so arranged as to be blown up with air, and having rings attached so that a soldier's musket will fit into them, can be carried on the shoulders of the men.

Larry, in his memoirs of his campaign in Poland, says :

"From Golominn, the Imperial Guard continued to advance on Pultusk. The roads became worse after we left that city. It continued to rain incessantly upon us, and we continued to march through a thick clay that came up to the girths of the horses, in which the artillery was every moment mired, and a great number of the baggage wagons stuck fast. Our army never performed a more difficult and tedious march. Under these circumstances, the advantages of our small ambulance carriages were evident, as they were fixed on two wheels, and, from their height and lightness, traveled more easily than the carriages with four wheels, or even the bat-horses."

The four-wheeled ambulance is found best for flat countries, but the two wheels for irregular or mountainous countries. Larry, who invented the first ambulance, during his campaign on the Rhine, 1789 and 1792, states that each division of ambulances consisted of twelve light carriages on springs. The large sized, with four wheels, resembled an elongated cube, curbed on the top, with two small windows on each side, a folding-door opened before and behind. The floor, like the present, was movable, and on it was placed a hair mattress and a bolster of the same, covered with leather, (a great improvement would be the substituting of air or water.) The floor moved easily on the two sides of the body, by means of four small rollers : on the sides were four iron handles, (rings that would fall or fit in the wood would be better,) through which the sashes of the soldiers were passed while pulling the wounded on the sliding floor, (as our soldiers do not wear sashes, the use of their musket as handles is, I think, better.) When the army was engaged in rugged mountains, it was found indispensably necessary to have mules or pack-horses, with panniers, to carry materials for dressings, with surgical instruments, etc. The trappings of a horse belonging to the medical staff, were a French saddle, with a cloth, similar in color to the uniform of the rider, edged with gold lace of various extent, according to the grade of the officer ; instead of holsters for pistols, Larry supplied them with couriers'-bags, which were more useful : they were covered with a holster cap, edged with lace. A small leather portmanteau, (or medical saddle-bag or trunk) was also fixed to the saddle. This contained dressings, and might easily be opened without loosing the straps, which made it fast to the saddle. Such an arrangement would be well for our surgeons or their assistants.

Hospital Construction.—The best principle of hospital construc-

tion is that of separate pavilions, placed side by side, or in line. The former is preferable. It diminishes the distance to be traversed from block to block. The distance between the blocks should be not less than double the height of the ward.

There should not be more than two flats to the block, or more than one ward to each flat. There is, however, no objection to having seventy to eighty sick under one roof. For the sake of economy, it might be necessary to build each pavilion with three flats instead of two, although two flats are more convenient for administration. For the purposes of administration, the building ought to be in a square; the basement story connected all around by an arched corridor, with open terrace above. The whole hospital should be erected upon an arched basement.

A hospital, formed of separate pavilions, could be built in line, provided large, roomy, well-ventilated and well lighted staircases intervened between each two pavilions.

This is the plan of the new military hospital at Vincennes, which, however, forms three sides of a square. This hospital has only one kitchen. That not more than one hundred patients can, with safety and facility of administration, be massed under one roof, has come to be an acknowledged principle of hospital construction. Buildings with two flats are most compatible with perfect sanitary condition.

Of the Number of Sick which a Ward should contain for Health, Discipline and Administration.—The best size of wards for ensuring the two conditions of health and facility of discipline, is for the accommodation of from twenty to thirty-two sick.

Wards containing fewer than twenty beds both multiply the attendance unnecessarily, and interfere with proper ventilation, in proportion to the number of patients. Wards larger than thirty-two beds are undesirable, because they are more difficult and expensive to ventilate.

It has been proven by experience, that the presence of head-nurses, whether male or female, one to each ward, is essential to discipline. It is very desirable, for purposes of discipline, that men of the same regiment should not be placed together in the same small wards or general hospital.

It may be asked, why should not all the sick be placed in one ward, provided there be cubic space enough? The answer is, with from twenty to thirty-two sick a height of fifteen to seventeen feet is enough, but it would not be enough for more, and height always involves expense. The greatest economy and the greatest safety to patients is in the above number.

The amount of Cubic Space for each Bed.—The cubic space for each patient in this climate has been fixed by European sanitary science at not less than fifteen hundred feet.

A good proportion for a ward of twenty patients would be eighty feet long, twenty-five feet wide, and sixteen feet high. This

would give sixteen hundred cubic feet to each bed. It would give thirteen feet between foot and foot, which is not too much where there is a clinical school. It would give an average of sixteen feet to each two beds in width.

Half of the sick are to be on each side of the ward.

The Best Proportion of Windows to Beds, with the Relative Position of Windows and Beds.—One window should be allowed for every two beds; the windows to be not less than four feet eight inches wide, within two or three feet of the floor, so that the patient can see out, and should reach to the ceiling. The pair of beds between the windows to be not less than three feet apart. Miasma, with good ventilation, will not be found to extend much beyond three feet from the patient, although from the excretions it may extend a greater distance. Windows are to be placed opposite each other. Wire-gauze across the open part of the window will afford an extent of surface for ventilation, not otherwise to be obtained, and preclude all possibility of draught upon the patient.

Windows opening as at Middlesex and Guy's Hospitals, in London, in three or more sections, with an iron casting outside, to prevent delirious patients from throwing themselves out, are the best form of window.

No part of the ward ought to be dark. For the purpose of ensuring a sufficiency of light, the walls should always be white, excepting, perhaps, for some few cases of ophthalmia.

The Best Material for the Internal Walls and Ceilings of Wards.—Impervious wards are of the first importance for hospitals. The walls should be of Parian, or other similar cement, or glazed tiles. Brick, as used at the Portsmouth Hospital, is highly objectionable from its porous character. Plaster is highly objectionable from the same circumstance; it absorbs organic matter. Both require very frequent lime-washing to keep them healthy. Glazed bricks would answer a good purpose.

The Best Material for the Flooring of Wards.—Oak wood, well seasoned, is the best; no saw dust, or other organic matter, capable of rotting, should be placed underneath the floor.

Concrete, or some similar indestructible substance, would be the best for the purpose.

The reason for using oakwood is that it is capable of absorbing but a very small quantity of water. And it is desirable to diminish even that capability, by saturating it with beeswax and turpentine. Beeswax is an invaluable substance. This kind of floor should be cleaned like the French parquet, by frottage.

A hospital floor should never be scoured. A very good hospital floor is that used at Berlin, which is oiled, laquered, and polished, so as to resemble French polish. It is wet-rubbed and dry-rubbed every morning, which removes the dust. Its only objection is its want of durability.

The stairs and landings should be of stone or marble. The corridors should be floored with diamond-shaped flags or tiles, which are more durable than those laid in the usual manner.

The terrace might be either covered with asphalte or glazed tiles.

The Accommodation for Nurses—Extra Diet and Clean Linen.—There should be a nurse's room, and a small scullery attached to each ward, also a press in the ward. Baths should be attached to the hospital. The baths should be separated from the pavilion, but connected by the corridor. The walls and ceilings of the bath-rooms should be of fine white cement, or some similar material, and the floors of tile. They should be suitably ventilated and warmed. They should contain hot and cold water baths, sulphurous water, hot air, medicated and vapor baths, shower baths, and douche. There should also be a portable bath to each ward.

The Best Form of Hospital Kitchen.—The kitchen should be placed away from the ward. Its walls and ceilings should be of pure white cement, for plaster has a tendency to fall off, from the vapor and effluvia of the kitchen. The cooking apparatus, boilers, etc., if placed in the centre of the kitchen, instead of against the walls, will afford twice the amount of fire space.

The Best Form of Laundry for a Hospital.—No reliable comparison has yet been made between the French system, adopted at the Salpêtrière and Lariboisière Hospitals, and the English system. The French consists in filtering hot ley through the clothes, which are placed for that purpose in large tubs, with a compartment at the bottom, from which the ley is pumped up by machinery, and allowed to flow over the top of the linen, through which it filters into the compartment, to be again raised by the machine. This plan is stated to be the most economical which has been tried in Paris.

There are several good plans in use in the British hospitals. The essential characteristic of the Haslar Naval Hospital laundry is boiling by steam, the linen being afterwards placed in a rotary washing machine.

Another method in use at the Wellington Barracks, where the washing of the Guard's barracks and hospital is done, consists in passing the linen through slowly rotating washing tubs, in which it undergoes a process of *walking* by wooden rods. This plan is both economical and effectual. It is a further question in army matters whether the men should not be trained to do as much as possible by hand, so as to be serviceable in the field where machines cannot be had.

The Best Kind of Bedstead and Bedding.—Iron Bedsteads and hair mattresses.

Ward Furniture.—Oak furniture is decidedly the best. The less ward furniture, generally speaking, the better. For all purposes of eating, drinking, and washing, glass or earthenware are to be

preferred. Tin vessels of certain kinds cannot, by any amount of cleaning, be freed from smell.

Water Supply and Drainage.—The water should either be drawn from a tank, at a distance from the hospital, or from a main under pressure, but never from a cistern within the hospital. *No drain should ever pass under a hospital.*

The Best Position for the Water-Closets.—The water-closets should be placed at the end of the ward opposite the entrance, and separated by a lighted and ventilated lobby. They should be of the best construction, self-acting. Adjoining should be a small bath-room for bad cases and lavatory.

The Best System of Ventilation for a Hospital.—The doors, windows, and fire-places, should be the means of ventilation for such wards as these; nothing else is wanted.

The Best System of Warming for a Hospital.—Radiation; open fire-places. Heated air from metal surfaces should never be used for warming. It has a tendency to produce disease of the lungs.*

To what Extent and in what Manner can Female Nursing be rendered available in General Hospitals attached to an Army in the Field or at Home?—Florence Nightingale informs us that female nursing might be introduced in general hospitals, both at home and in the field, if only women of the efficiency, responsibility and character of head nurses in civil hospitals be appointed, say one to not less than twenty-five bad cases; the orderlies doing under the head female nurse the duty done in civil hospitals by assistant nurses. But the head female nurse must be in charge of all that pertains to the bedside of the patient, of his cleanliness, of his bed and utensils, of the administration of medicine, of food, of the minor dressing not performed by the surgeon; in short of all that concerns the personal obedience of the patient to the orders of the surgeon. She must accompany the surgeon on his visits and receive his orders. She must also be in charge of the ventilation and warming of the ward. She must report any disobedience of the orderlies, as far as regards the patient's personal treatment. There need be no clashing with the ward-master or hospital-sergeant. On the contrary, it would be the duty of these to enforce the nurse's authority. They will have enough to do, besides with returns and accounts, and with enforcing discipline as to hours, meals, clothing, etc., among the orderlies out of the ward.

The female nurses should be, of course, under a female head, whose duties must be carefully arranged, so as to be in accordance with the code of hospital regulations.

Miss N. is of the opinion, from careful study and investigation, that female nursing could not be employed with advantage in regimental hospitals.

* Evidence given before the Royal Commission by Miss Nightingale, affecting the sanitary condition of the army and hospitals.

On the Regulation of Barracks.—"No barracks, however roomy, can dispense with ventilation; they will inevitably become unhealthy if deprived of it, and the most important of the injurious results in the Schleswig-Holstein war were the formidable pestilences of typhus fever and granular ophthalmia.

"In the best barracks of the Schleswig-Holstein infantry, 700 cubic feet per man were provided, including the double purpose of residence and sleep, and it was not difficult to obtain 800 on the occasional appearance of granular ophthalmia. In the English regulations of 1859, 600 are established by government. It is of great importance to have the sleeping and the sitting rooms separate, so as to subject the bedding to currents of air.

"According to the regulations of the U. S. Army, (1861,) for barracks and quarters: To every six non-commissioned officers, musicians, and privates, servants, and washerwomen, 225 square feet of room, north of 38° N., and 256 square feet south of that latitude.

"A high, dry, well-drained situation is required, without hollows that can contain water, without mud, and protected from the drainage of neighboring grounds. Abundance of good drinking water must be accessible. The size of the grounds will depend on the situation; but it is the more important as impediment to ventilation exists. A southern exposure, admitting of a majority of the windows in that side, is the best; next to this a south-eastern. Taste should never be allowed to interfere with this. It will be recollected that the ocean lies on a different side from that which it occupies in the United States. The barracks should include no hollow square, or much projecting wings, never to exceed a projection of 25 feet; 500 feet should be allowed for the sleeping-rooms, and 300 for the day-rooms; with large communicating openings near the ceiling, closed with Venetian blinds, to be left open in summer, after airing the day-rooms. All the rooms should be on the southerly side, with the corridor on the north.

"The windows of the corridor must be opposite the doors of the rooms, which should be folding-doors. The utmost deviation from these rules which can be permitted, is the construction of two short wings to contain small chambers. For economy, the chambers should be made somewhat deep from north to south, and proportionably narrower in the other direction. The whole building should, for the sake of health, be made with deep cellars—if a perfect drainage be accessible, the washing-rooms should be placed there; if not, in the small projecting wings at the end, which should have solid floors, without cellars, and be themselves well-drained. The bath-rooms should have hot water from the kitchen. The privies should be separate from the urinary funnels; and both remote from the dwelling-house. A stream of water should run through the bottom of the urinary conveniences. The apothecaries' shop must have good light, and a surface of at least

350 square feet. Large buildings have recently been erected in Hanover, in accordance with these rules, and supplied with a parade ground of fifty acres. Dr. Stromeyer defends the building of hospitals two to three stories high from motives of economy, and his hospital, including a basement, is four stories high, and he objects to Miss Nightingale's plan, from its nearly doubling the cost of erection. In addition to this, he conceives physicians called upon to oppose it, because, as he says, it excludes the use of smaller individual rooms for separating patients. In his opinion, the rise of effluvia from one floor to those above it, is in no degree to be feared, if simply each different story is properly ventilated."*

The space allowed to English hospitals averages nine hundred and fifty feet. Hennen says eight hundred feet will do, but Ballingall thinks that bed-ridden patients should be allowed one hundred. (*Medical and Surgical Reporter.*)

ABSTRACT OF CURRENT MEDICAL LITERATURE.

TREATMENT OF SPINAL CURVATURE.—Mr. Holmes Coote, in one of his excellent lectures in the *London Lancet*, makes the following remarks on the management of spinal curvature :

You may meet with many cases in which it is said that localized movements, muscular exercises, gymnastics, and calisthenics have effected a cure ; but upon minute inquiry you will generally find that, combined with these measures, which as accessories are both useful and healthful, there is usually abstinence from some habit detrimental to upright growth. * * * * * There is but one way of correcting spinal curvature,—namely, by mechanical support and direct pressure. That pressure must be unremitting, commenced early, and maintained at the proper standard for many months, perhaps for years. The inconveniences attendant on such treatment are doubtless considerable ; but what have we to put in its place ? Will the general health bear confinement in the prone position on a couch ? And as regards localized movements, they may pull upon and even stretch contracted ligaments, but they cannot guard against their recontraction. But in nearly every case there is a stage in which a moderate amount of support will effect all that is necessary. When the spine first begins to yield, the curve being periodical, as it were, and coming on only in cer-

* Stromeyer's *Maxims of Military Surgery*, N. A. Medico-Chirurgical Review, for May, p. 428.

tain postures of the body or after fatigue, the greatest possible amount of benefit may be obtained by the wearing of stays provided with lateral supports. These side-crutches, introduced so as to present no unsightliness nor demand alteration in the dress, serve to maintain the spine in the upright position. The stays, called "French stays," fix in front, but can be tightened to any degree by strings which pass from behind forwards and then around the waist. Instructions must be given that the patient should rest upon the sofa whenever the back begins to ache; and with this mechanical treatment you may combine the administration of tonics, proper out-door exercise, and any well-regulated amount of calisthenics.

The more decided curvatures, however, are to be treated only by powerful apparatus. The necessary instrument is weighty and strong; but if it were not so, it could exert no active influence on the spine, which would press the instrument itself back, instead of yielding before it. The pressure is exerted by pads attached to steel rods moved with cog-wheels. The object which you have in view is to raise the shoulder which is depressed; to push as far as possible into place, by gentle yet unremitting force, the displaced bones, by acting on them through the ribs, and to maintain them in their right position until the tendency to curvature has passed away. During all this time the patient may take the usual exercise and follow her accustomed avocations. But let me give this advice: Do not undertake the management of a confirmed case unless it is agreed that your attendance is to be very frequent and extended over twelve months at least; and, moreover, do not allow the patient or the friends to take charge of the instrument. The apparatus may be worn by infants as well as adults.

RECURRENCE OF A TUMOR OVER THE DELTOID MUSCLE SOME MONTHS AFTER REMOVAL—A case of much interest and instruction to the surgical pupil came under our notice a few weeks back at Guy's Hospital. A man, forty-five years of age, a leather dresser, who had always enjoyed good health, sustained a blow on his left shoulder two years ago from the falling of a beam. The part was much bruised and ecchymosed, and a few days after a tumor commenced forming in the situation of the injury, which was removed by Mr. Hilton in February, 1860. It was evident that the tumor sprang from the lacerated fibres of the deltoid muscle, and an examination showed it to be recurrent fibroid in its general character. Six months afterwards the disease returned, and grew very rapidly, attaining to the size of a large orange. This was removed by Mr. Hilton on February 19th, 1861, with a portion of the deltoid muscle, and on making a section of it, it was found to be medullary cancer, which subsequent microscopic examination confirmed. Its appearance, however, to the eye was intermediate between fibrous and medullary. The patient has subsequently

gone on well, but is liable to a recurrence at an early period. The points of interest in this case are the development of the tumor primarily from lacerated muscular structure, and the subsequent appearance of a growth of cancerous nature, which had, in the first instance, been recurrent fibroid. The latter, however, is strongly allied to cancer, and in the end proves as fatal. (*Lancet.*)

One important difference there appears to be between recurrent fibroid and cancerous tumors, that the former reappears only in its original seat, while with cancerous tumors there is very nearly a certainty of the secondary appearance of them elsewhere and especially in the viscera.

OBSERVATIONS ON THE GROWTH OF STUMPS.—Dr. G. M. Humphrey, surgeon to Alderbrook's Hospital, Cambridge, in a paper read to the Royal Medical and Chirurgical Society, shows that the common impression that a stump keeps pace with the rest of the body in its growth, is erroneous. He did this by measurements taken from persons who had undergone amputation in childhood, and by experiments upon animals. The rate of growth varies. The stump rarely maintains its relation to the corresponding segment of the other limb; and it fails to do so, as might be expected, most markedly in those parts in which the growth of the bone takes place chiefly at the lower end. Thus, if amputation of the thigh be performed on a young child, one-third from the lower end, the stump, when full growth has been attained, will not be more than a third as long as the other thigh; its relative length will thus have been altered from two-thirds to one-third—that is, it will not have grown more than half as fast as the other thigh. The instances in which the bone of a stump elongates so as to be troublesome and require a portion to be removed, are regarded by the author as quite exceptional, the phenomenon being probably due to some irritation, and being, therefore, of the same nature as the spicules and exostoses which are occasionally found upon stumps and on the other parts of the skeleton. (*Ibid.*)

LATERAL DEVIATION OF THE SPINE—MECHANICAL TREATMENT SUPERSEDED.—Dr. Dubreuil, an eminent orthopædic surgeon of Marseilles, has endeavored to attain a method of treating lateral curvature of the spine, without the necessity of apparatus. He demonstrates, in his published memoir, that all lateral deviations of the spine are attended with torsion of the vertebral column on its axis. This deflexion is produced in a manner precisely similar to that which may be artificially caused in a thin piece of whalebone, or a flexible green twig, bent in the shape of an S.

If one of the extremities be forcibly twisted in one direction, the other will immediately become distorted in a contrary manner. That the intensity of the torsions is in exact proportion to that of curvatures, is also a proposition capable of demonstration.

These torsions Mr. Dubreuil proposes to untwist. He says: "Let us suppose a common spinal deformity in which the curvatures exist above on the right, and below on the left side; the following are the movements which I should recommend: I sit down and place the child standing, with his back to me; I then cause him to stiffen his neck and left shoulder; while affording support with one hand to the child's right arm, and applying the other on the left hip, I prescribe a movement of the upper part of the body, tending to carry it to the left side, and slightly backward, preventing at the same time all attempt to lower the shoulder, or bend the trunk on the right hip. This movement when properly performed, must cause rotation of the dorsal vertebræ to the left, and consequently a corresponding motion of equal extent of the lumbar vertebræ. During the movement, the thumb of my left hand, lying over the first lumbar vertebræ, informs me of the degree of torsion of the spine, and whether the muscular action has been properly accomplished."

These exercises are continued twenty or twenty five minutes, with an interval of five or six minutes' rest; and need, in general, not be repeated oftener than five times a week. Fatigue is to be avoided. The children, in the day-time, are under no restraint whatever, and sleep at night in bed perfectly free from bandages, or any other mechanical appliances.

Mr. Dubreuil, in support of his method, adduces thirty-three cases, the results of which may be summarized, as follows:

Curvature in the first degree, as defined by Mr. Bouvier, is always curable in a space of time varying from two to six months, without any fear of relapse.

The second degree of the disease can always be cured in six or twelve months, provided the vertebræ are not altered in shape, and if such deformity has occurred, very slight curvatures will remain, which will not injure the child.

As to the third degree, an amelioration almost equivalent to a complete cure, may result from a treatment of twelve or eighteen months, in mild cases; and in very severe cases, considerable improvement may be expected, which will much contribute to the restoration of health, and at least check the further progress of the disease. (*Championnière's Journal.*)

This description of Mr. Dubreuil's treatment of spinal curvature is interesting in connection with the views of Mr. Holmes Coote, already given in this month's "Abstract." Mr. Dubreuil's method requires great patience in the surgeon, and more persevering confidence on the part of the patient than is often met with.

HYDROCELE TREATED BY SETON.—Prof. S. D. Gross publishes in the *N. A. Medico-Chirurgical Review* for July, some cases in surgery, from which we extract the following:

Case 1. Thomas W., aged 50, was tapped three months previ-

ously, and twelve ounces of fluid drawn from the scrotum. The tumor soon reappeared, and at the time of the operation was large and of a globular form, fluctuating distinctly, and rapidly increasing. Injection of tincture of iodine, diluted with six parts of alcohol, was first tried; but as this failed to secure the requisite amount of inflammation, a seton was introduced five days after the evacuation of the fluid, and allowed to remain four days, with the effect of completely obliterating the secreting cavity.

Case 2. Charles G., the other patient, was a small, thin man, twenty-six years old, a tailor by trade, who had for ten years carried a large tumor in his scrotum, conical in form, which had never diminished in size or shown any material alteration. The testicle, as is commonly the case, was found to be at the bottom of the swelling, which was elastic, but could hardly be said to fluctuate. The exploring needle indicated a large cavity with serous contents, and at once determined the diagnosis. Eleven ounces of thin, dark-colored, coagulating fluid were drawn off, after which the trochar was reinserted in the canula, and a counter opening made, through which was passed an eye probe, armed with a strip of muslin, about a third of an inch in width, which was loosely tied in front of the scrotum. Forty hours afterward, the seton was withdrawn, as the swelling had in great measure reappeared, and its hardness indicated a sufficient effusion of lymph. A sorbefacient lotion of acetate of lead and opium was applied, and the scrotum kept suspended, until the end of the third week, when the cure was complete.

UNUNITED FRACTURE OF THE HUMERUS, OF TWENTY-SEVEN MONTHS' STANDING, SUCCESSFULLY TREATED BY EXCISION AND SILVER WIRE.—This case is from the same source as the last.

The patient was thirty-two years of age. Pressure, friction, and injection of iodine had failed to produce a union. After chloroform had been administered, a straight incision, about four inches in length, was made through the posterior portion of the triceps muscle, exposing at once the membrane which had encased the fracture. On severing this, it was found that the oblique extremities had been rounded off, and become incrustated with semi-cartilaginous tissue, so as to form a very perfect false joint, which was lubricated by an abundant thin, glairy fluid, though nothing like a synovial membrane could be detected. They were each in turn brought through the opening thus made, and cut off at right angles by means of a delicate saw introduced behind them. It was necessary to take about half an inch from the lower fragment, and nearly three times as much from the other. One ligature, made of three strands of the usual-sized silver-wire, was passed horizontally through each section of bone, and another diagonally across the edges, which, after having been tightly twisted, were cut off short, and the ends bent up so as to lie close beside the body of

the humerus. The incision through the skin was then approximated closely with interrupted sutures, and the whole arm placed in well padded curved splints of binder's board.

On the third day, the arm was attacked with erysipelas, which was prevalent at that time in the city, and in the hospital. Extensive suppuration followed, from the shoulder to the fore-arm, and the splints were necessarily omitted. Under supporting treatment, he finally recovered, and the splints were reappplied. When last seen, nearly four months after the operation, the union was almost complete: a large quantity of callus had been thrown out, the elbow joint had regained its motion, and the general health was excellent. (*N. A. Medico-Chirurgical Review.*)

USE OF COLD WATER IN RESTRAINING INFLAMMATION AND PREVENTING HEAT, PAIN AND REDNESS IN FRACTURES.—The extremely satisfactory results that I have obtained in the Marine Hospital during the past winter by the continued application of cold water to the fractured limbs, induces me to add my testimony to that of Drs. Smith, Pope, and other surgeons. It would be difficult to use terms too extravagant in describing the ease, comfort, and prevention of pain, which this method of treatment secures to the patients even after double compound comminuted fractures have been sustained. During its employment the individual feels no pain, he has no fever, and he does not obviously lose flesh; he does not suffer from constitutional disturbance of any kind nor is he conscious indeed that so serious an injury has befallen him, save when his eye is directed towards the member under treatment. At the end of the fifteenth day after entrance, the patient's physical condition is just as good as on the day of his admission, because the limb being bathed day and night in fresh supplies of cold water there is no pain, redness or inflammation, consequently no swelling, suppuration or wasting discharge, no troubling constitutional disturbance, loss of rest, emaciation, night sweats or loss of appetite. These are the usual circumstances in every other mode of treatment of fractures where the soft parts were injured.

The leg is placed in a box made of block tin in which it fits loosely, and which embraces it above the knee. This is sealed with putty or paper at suitable intervals to keep the leg fixed. These sealings may be removed once by one and the member placed in a new position. At the most convenient part of the leg there is a tube passing out so far that the water can be poured out and may escape outside of the box. A small jar containing water is suspended from the leg as a substitute when the box cannot be used. No dress coverings are used. A jar containing water which is changed as the water is warm is suspended above the limb, and words attached to the four points of the leg. The leg is not supported several strips of cloth to divide which is

directed that the water, by capillary attraction, constantly drops upon the entire surface of the wound. This irrigation is kept up night and day for from twelve to fifteen days, at which time it is advisable to discontinue it, as the action of the water becomes injurious by creating irritation of the skin. Even in the coldest weather in winter this may be kept up by covering the patient's feet with carded cotton, to preserve a sufficient amount of warmth. Otherwise the temperature of the foot becomes too much lowered.

The above method has been employed in five cases of fracture of the tibia, with perfectly satisfactory results in every instance. In the management of wounds, recent contusions, etc., whether connected or not with injury to the bones, the use of cold water has been, in my experience, equally applicable and successful. (*Charleston Med. Journal and Review.*)

PUERPERAL FEVER COMPLICATED WITH DIPHThERIA, TREATED WITH TINCTURE OF THE SESQUICHLORIDE OF IRON.—Dr. Robert Dewitt, of London, reports the case. A healthy woman, aged forty-two, was attacked after labor with shivering and violent pain in the left leg. This pain soon changed to the left side, below the mamma. There were extreme restlessness, heat of skin, and prostration; and on the third day, violent foetid diarrhoea set in. On the ninth, the motions which had continued incessantly, were thin, reddish, and passed involuntarily. The patient was drowsy and wandering, had great difficulty in swallowing, and copious salivation, together with a diphtheritic exudation at the back of the fauces. The free use of wine, brandy, beef-tea, opiates, and quinia failed to stay the progress of the malady, and the patient was sinking, when the tincture of the chloride of iron was given, and with decided and unmistakable effects. The evacuations were deodorized, the diarrhoea ceased in twenty-four hours, and, spite of the throat complication, she rapidly became convalescent. The diphtheritic exudation extended over the posterior half of the soft palate. The upper lobe of the left lung was left consolidated, but has since entirely recovered its normal condition.

The quantity in which the remedy was given deserves notice; three fluid ounces were swallowed in five days. During the first day that it was given, the patient took two fluid drachms every two hours. (*Medical Times and Gazette.*)

We had supposed that the full benefit of this preparation could be obtained from the employment of much smaller doses, and there is room for doubt whether there was in this case any advantage in administering so large an amount. Among different practitioners, there is a very great range in the doses of medicines of this class, and it is not improbable that they are often prescribed in quantities needlessly, if not hazardously, large. It is true that the tincture of the sesquichloride of iron and the chlorate of potass,

require to be given very much more freely in diphtheritic affections than in cases of ordinary debility or of simple anæmia, and that in small doses they are utterly powerless in grave diphtheria; but we must not forget that both of them have produced death by inflammation of the alimentary canal, when given in exceedingly great quantity. The tolerance in one case would not justify the universal adoption of heroic doses of the remedy, since there appears to be a marked difference in the susceptibility of individuals, and probably some difference due to temporary conditions of the system.

THE ELEMENTS OF MECONIUM were not sufficiently known before the year 1858, when Prof. Förster, of Gottingen, submitted it to a very careful examination. The principal results of his investigations are these: that it does not consist, as it was formerly believed to do, of bile, and of the mucous and epithelial cells of the intestines, but mainly of vernix caseosa, and the pigmentous matter of the bile. In their largest part, both vernix caseosa and meconium contain obdurate pavement epithelium: but the former has no coloring matter, and the latter has less fat. Besides the constituents already mentioned, there is in the meconium hair from the surface of the body, just like that found, sometimes even without a microscope, in the vernix. Stomach and intestines have no pavement, but cylindrical epithelium only: nor are hard and large scales, like those of meconium, found on the mucous membrane of the mouth and œsophagus. The fat contained in the meconium takes its origin from the general surface: cholesterine, which is found in meconium, has probably been a part of the bile. Thus we may safely conclude that the principal part of meconium is vernix caseosa, which has been swallowed. Its water is rapidly absorbed, and partly excreted by the kidneys. Perhaps some part of the fat, also, is absorbed by the follicular glands of the small intestines. Acephali have no meconium: this fact was formerly attributed to the absence of bile, in consequence of absence of liver; but this malformation would account for the absence of coloring matter and cholesterine only. (*Prof. Jacobi, in American Medical Monthly.*)

POSTURAL TREATMENT OF PROLAPSE OF THE FUNIS.—Dr. T. Gaillard Thomas treats prolapse of the funis, by placing the patient on her elbows and knees: retaining the cord, which is easily done, owing to the falling of the viscera and tetus forward: and maintaining the patient in this position until one or more pains force the head so firmly into the strait that the cord cannot again escape. (*Am. Medical Monthly.*)

EDITORIAL.

THE SANITARY COMMISSION.

The National Sanitary Commission has begun its labors. It has been divided into committees, a part of which have visited the headquarters of the several military departments, and instituted a rigid inquiry into the condition of the troops in camp and in hospital. The president of the commission, Rev. Dr. Bellows, has lately examined the camp at Cairo, and reported upon all the details of its condition. Mr. Olmstead, the Secretary, whose station is at Washington, has published the first official report of the commission, which is a document, the result of a merely preliminary survey of the camps near Washington, but filled with facts, a knowledge of which is of the first importance to the country.

We consider much of the blame for the wretched condition of our camps to rest rightfully on the medical profession throughout the country, who are the natural and proper instructors of the people in hygiene, and who so seldom take the pains to give any instruction of the kind to the circle of their patients. How much it is needed by most of them we all know, to our daily sorrow. The regiment cannot excel in wisdom the individuals that compose it; and even the captains and colonels are often totally ignorant of hygienic laws, both in theory and their daily lives. No wonder, then, that we find their camps the wretched places that they are.

With the hope of awakening in our readers a renewed sense of the daily responsibility which rests upon them, of correcting within the circle of their influence some of the errors, which, when multiplied by the numbers of an army, attain so fearful a magnitude, we transcribe from the *New York World* the following summary of Mr. Olmsted's first report. No truly wise physician can look upon hygiene as trivial—while nothing is so common to charlatans as a disregard of it.

"The report embodies this chief fact: that the preservation of the health of the soldier is left to the soldier himself, and that camp life is not based upon strict rules of sanitary precaution which the soldier is bound to obey. Exceptions there are, but as a general thing the troops are allowed to sleep, to cook, to eat, to dress as it suits their convenience, and not as it suits their welfare.

"The camp is the soldier's home. First, it should be in a healthy situation; secondly, it should be well drained. Good nat-

ural drainage most of the camps possess, but in few cases has any good artificial drainage been made. A complete system of drains, which should be made the very hour the tents are pitched, is scarcely to be found; and as a result, after heavy rains, in the tents of many of the camps water has stood two inches deep. The tents, too, are pitched much closer together than they should be. The want of a proper supervision is shown by the fact that scavengers from Washington were in the habit of depositing night soil in large quantities near the camps. The health officer of that city has since stopped the practice.

"Our volunteers are generally men of good social habits, yet the report states that in the camps they are much dirtier than their friends could be made to believe. This is little to be wondered at, when we know that no rules of personal cleanliness are enforced to counteract the Bohemian tendencies of a soldier's life. The soldier steps suddenly out of the trammels of a fixed abode into nomadic freedom, and finds it hard to be at once a gentleman and a gipsy. The public opinion that governed his habits at home is powerless over his actions in camp. From all influences of refinement he is at once removed; ordinary social tyranny over dress and habits is dethroned; his cleanliness depends upon his self-respect alone. Is it surprising that after a severe drill he should sleep in his clothes, that he should be too indolent to wash his shirt, or that he should rather lounge under the trees than walk a mile to find a bath in the river?

"But our volunteers are not responsible for all the evils of their condition. Most of these are not in their power to remedy. Their food, Mr. Olmsted states, is unsuited to their wants. 'There is not probably a single surgeon who will not testify that the troops are not suffering for a want of vegetables.' One case of scurvy is already reported, and the danger of decimation of the volunteer forces by scurvy and dysentery, is believed to be imminent. The secretary admits the difficulty of procuring green vegetables in the large quantities needed. But where the necessity exists, the difficulty must be overcome. 'In no respect,' says Mr. Olmsted, 'are the volunteers in so much need of instruction, advice, order and assistance, as in cooking.' With meat they seem to be well supplied, but are utterly without any general system of preparing it. The commissary department supplies the raw material liberally, but it is, to quote from the report again, 'atrociously cooked and wickedly wasted.' A special report on this subject will soon be published, to which we shall refer, and now merely note the secretary's wise suggestion of obtaining sea-cooks from shipping ports, *at once*, and attaching one to each company. Bad clothing is another evil for which the troops are irresponsible. The report suggests improvement of the quality of the clothing and change of its character, and recommends an imitation of the latest patterns of the trappings of

the French soldier as being more healthful and convenient than our own regulation uniform.

"The evils of the condition of our volunteer army derive from three sources : firstly, the improvidence and ignorance of the soldiers ; secondly, the inability of government departments to execute all their intended measures of reform ; thirdly, the neglect of officers. That the government intends to do its utmost for the improvement of the volunteer forces, the existence of the Sanitary Commission is itself a proof. But all other reforms must begin, not with the thoughtless men, but with the officers themselves. The report states that the captains, especially, have not the faintest comprehension of their responsibility. It shows that their whole attention is engrossed by tactics ; that they do not know that clean, well fed and well dressed soldiers are easier to manage than dirty, ragged and hungry ones ; that while they are vigilant in keeping rebellion out, they are letting pestilence in. It makes plain the truth that sanitary organization is as important to the army as military discipline ; and we agree with the secretary that if it can be done without interfering with discipline, the commission should be clothed with administrative powers as well as advisory functions."

MEDICAL NEWS AND MISCELLANY.

FISKE FUND PRIZE QUESTIONS.—The Trustees of the Fiske Fund, at the annual meeting of the Rhode Island Medical Society, June 19, 1861, announced the following subjects for prize dissertations for the year 1862 :

I. What evidence is there that inflammatory and febrile diseases have undergone any general change of type ?

II. Gun-shot wounds, especially those caused by recently invented missiles ?

For the best dissertation on the first subject, they offer a premium of one hundred dollars ; for the best dissertation on the second subject, they offer a premium of fifty dollars.

Dissertations should be sent, expenses paid, to Dr. S. Augustus Arnold, Secretary of the Trustees of the Fiske Fund, Providence, R. I., on or before May 1, 1862. Each dissertation should be marked by some motto, and accompanied by a sealed packet, bearing the same motto on the outside, and the writer's name and residence on the inside. Packets accompanying unsuccessful dissertations will be destroyed unopened. Before receiving the amount of the premium, the successful writer must relinquish the right to his dissertation, in behalf of the Fiske Fund. The awards will be announced at the annual meeting of the Rhode Island Medical Society, in June, 1862.

The Trustees of the Fiske Fund are the President and two Vice Presidents of the R. I. Medical Society ; Dr. Caleb Fiske, a former President of that

Society, having bequeathed to these officers and their successors, in trust, the sum of two thousand dollars. The use of the income is limited to the purposes of giving premiums, and of printing and distributing among the members of the Society the successful dissertations. The bequest has increased, by interest and otherwise, so that the Trustees are able to, and usually do, offer two premiums annually of one hundred dollars each. The bequest first became available in the year 1835. Since that time, twenty-six premiums have been awarded; twelve to fellows of the R. I. Medical Society, to whom competition was formerly restricted; six to Massachusetts physicians; six to residents of other states, and one to an English writer.

NAVAL MEDICAL BOARD.—The Naval Medical Board, consisting of Surgeons Barrington, Lockwood, and Wheelwright, continue their session at the Naval Hospital, on Flushing Avenue, Brooklyn.

Well qualified medical men desirous of entering the navy should apply by letter to the Hon. Gideon Welles, Secretary of the Navy, stating age—the limits of which are between twenty-one and twenty-five—place of birth, and present residence, and accompany their application with a testimonial of moral character.

NECESSITY OF TRAINED MONTHLY NURSES.—Every obstetric physician experiences the want of skilled monthly nurses. In general, any superannuated widow, unable to live by other means, obtains the names of several physicians as references, and issues her cards as a qualified nurse. She enters upon her profession with no practical knowledge of her duties, or just conception of her relations to the patient and medical attendant. Her head is full of old women's remedies, with which she is constantly annoying the physician, or in his absence administering to the patient; she is foreboding if the labor is tedious, and horror-stricken if it is complicated; in short, instead of being an assistant to the accoucheur, and a source of comfort and support to the patient, she proves to be a constant annoyance to the former, and an alarmist to the latter. (*American Medical Times.*)

A NEW ANALYTICAL SANITARY COMMISSION.—The *London Lancet*, which, eleven years ago, created such an excitement among London grocers and tradesmen, by the publication of the adulteration of articles of food, when submitted to microscopical analysis, together with the names of the dealers, announces another series of articles on the same subject.

THOUGHTFUL BENEFICENCE.—The late Nathaniel I. Bowditch, Esq., made in his will the following bequest:

“I give to the Mass. General Hospital, \$5,000, as a fund to be called the Wooden Leg Fund, the income to be applied towards defraying the expenses of wooden legs for patients who have been obliged to submit to amputation. In the distribution of this income, I should desire that female patients should be preferred to males, and young patients to old ones.”

MEDICAL AND SURGICAL REPORTER.—This excellent Philadelphia weekly has lately added to its editorial corps Dr. O. C. GIBBS, of Frewsburg, N. Y., a gentleman whose name has become familiar to the medical profession through the *Monthly Summary of American Medical Journalism*, (prepared by him, until recently, for the American Medical Monthly,) and also through the valuable paper on Epidemics and Endemics, which he published in two numbers of the N. A. Medico-Chirurgical Review. Dr. Gibbs, now announces that the Summary will hereafter be published in the Reporter, and weekly instead of monthly. It is a very valuable addition to the matter of any medical journal, to have a careful summary of cotemporary periodical literature, and we have found the labor of Dr. Gibbs performed with judgment and discretion.

NEW WORKS ANNOUNCED.—Messrs. Blanchard & Lea, of Philadelphia, have in press a new work on Venereal, by Freeman J. Bumstead, M. D., of New York.

A work on Placenta Previa, by William Read, M. D., of Boston, is also in press.

TOLERATION OF LARGE QUANTITIES OF TURPENTINE.—The *Medical and Surgical Reporter* has two cases in which excessive quantities of the oil of turpentine were taken without any serious results. In one case, half a pint in the course of five hours, in half-ounce doses. No unfavorable consequences resulted, excepting, as the patient remarked, a feeling of intoxication. The other case is that of an inebriated man, who took up a bowl filled with the oil of turpentine, supposing it to be whiskey, and drank the greater part of it before discovering his error. He complained of pain in the abdomen, but soon went to sleep, and experienced no ill effects from the dose.

ABSINTH, which is a French word, meaning "wormwood," is a liquor made by the distillation of a number of plants with alcohol. These are the tops of the wormwood, flag-root, aniseed, angelica-root, leaves of dittany, and sweet marjoram. All of these are placed in alcohol of very high proof, where they are allowed to remain eight days, when the mixture is distilled, and half an ounce of the essential oil of anise is then added to each three gallons of the liquor. The first care after the distillation is to see whether the liquor will "whiten" well, and if it is lacking in this essential, it is brought up to the proper point with indigo, tincture of curcuma, hyssop, nettles, and sulphate of copper. Absinth, however, requires no adulteration to make it a positive poison. In the process of distillation, the plants furnish several volatile oils, which are among the most violent poisons, and besides these it must be remembered that a large quantity of the essential oil of anise is added. Its use has been attended by so grave results, in producing insanity and death, that the French government has prohibited it in the army and navy—even to the officers—and it is said that an attempt is to be made to prevent its importation into the colonies.

APPLES A GRATEFUL AND USEFUL DIET IN SCARLET FEVER.—"For many years I have used sour baked apples as the diet, *par excellence*, in scarlatina ;

and how many grateful little ones, nauseated with pap, porridge and panada, have risen up to call me blessed, for the grateful change to apple diet." (*Dr. Kneeland, Onondaga.*)

BERKSHIRE DISTRICT MEDICAL SOCIETY.—The July meeting of the Berkshire District Medical Society was held at Great Barrington, on Wednesday, the 24th.

An interesting meeting was followed by a very hospitable and liberal entertainment by the President, Dr. Collins; a large company was assembled, excellent addresses delivered; and the evening was spent amid music, beauty, and festivity.

HOMOEOPATHY FAILED TO ENTER THE MICHIGAN UNIVERSITY.—We learn from a letter of Professor Palmer's to the *Chicago Medical Examiner*, that the Legislature of Michigan *did not* pass a law requiring the establishment of a chair of Homoeopathy in the Medical Department of the State University of Michigan. A bill to that effect was introduced by a quack, but failed to pass.

We are requested by Dr. Wm. E. Coale, Librarian of the Mass. Medical Society to state, that the Society will pay the postage of Braithwaite and its own annual publications; but that the books embraced in the Library of Practical Medicine will only be sent to members by mail on the receipt of the postage, or by express, on application at the office of the Boston Medical and Surgical Journal. It is understood that they will be sent only to those who have paid all their dues. (*Boston M. and S. Journal.*)

We have no doubt of the honorable intentions of our Boston cotemporary, and presume the encouragement of Dr. Ignatius Langer, of Iowa, by the weekly publication of his meteorological reports, arose from mere inadvertency. They have acted promptly on the hint in our June number, and the meteorology of Scott County, Iowa, no longer has its record in the Boston Medical and Surgical Journal.

BOOKS RECEIVED FOR REVIEW.—A Treatise on the Practice of Medicine. By Edwin R. Maxson, M. D., etc. Philadelphia: Lindsay & Blakiston. 1861.

EXCHANGES RECEIVED.—American Journal of the Medical Sciences. North American Medico-Chirurgical Review. Medical and Surgical Reporter. American Medical Times. American Medical Monthly. Boston Medical and Surgical Journal. Cincinnati Lancet and Observer. St. Louis Medical and Surgical Journal.

THE
BERKSHIRE MEDICAL JOURNAL,

EDITED BY

WM. HENRY THAYER, M. D., AND R. CRESSON STILES, M. D.

"Ore trahit quodcumque potest atque addit acervo."

VOL. I.

SEPTEMBER, 1861.

No. 9.

PROCEEDINGS OF SOCIETIES.

MASSACHUSETTS.

BERKSHIRE DISTRICT MEDICAL SOCIETY.

The Society met at the residence of the President, Dr. Collins, in Great Barrington, on Wednesday, July 24th. The President in the Chair.

The financial affairs of the Society were reported by Messrs. Miller and Smith, the committee appointed at the last meeting to examine into and adjust them, to be in a very satisfactory condition.

A resolution was passed, designed to secure written communications, at each monthly meeting, on subjects of practical value.

Dr. Parks communicated an interesting case of amaurosis in a young man of sixteen, which had lasted for several years, had progressed in spite of the most approved treatment by oculists of reputation, and now involved deeply both eyes. Dr. P. having had his attention called to the subject of amaurosis from spinal irritation by an article by Dr. A. H. Robinson, in the July number of the Berkshire Medical Journal, had examined the spine, and found several vertebræ extremely tender on pressure; promised to report the results of treatment at a future meeting.

Dr. Stiles mentioned that the influence of the upper portion of the spinal cord upon the circulation within the eye was well known to physiologists. Budge and Waller had designated that portion

of the cord included between the sixth cervical and third dorsal vertebræ by the name of the cilio-spinal region ; it is the spinal centre of the cervical sympathetic ; irritation of that region was followed by contraction of the pupil, its lesion or section by dilatation. Not only does the cervical sympathetic control the diameter of the pupil, but the circulation, temperature and nutrition of the parts supplied by that nerve.

Dr. Smith reported a case of amaurosis of long standing in a man of thirty-two years of age, which had been pronounced incurable on good authority, which *Dr. T. Childs* had treated with blisters to the back of the neck, and behind the ears, and the internal administration of iodide of mercury. Entire recovery followed in the course of three months.

Dr. Collins had treated snow-blindness by counter irritation to the temples and back of the neck, with favorable results.

Dr. Miller had seen periodical amaurosis in miasmatic regions ; had found strychnine useful in its treatment.

Dr. Cass presented two specimens of tape worm, one twenty-two feet in length, which had been expelled by the use of pumpkin seeds, followed by turpentine and castor oil—had given in both cases, after a short abstinence, two ounces of bruised pumpkin seeds in the evening, followed in the morning by a half ounce of turpentine, with castor oil. Both cases were of strong, healthy women, affected with disordered digestion, capricious appetite, and strange sensations in the bowels, which symptoms ceased entirely after the discharge of the parasite. In one case, other remedies, such as male fern, couso, &c., had been previously used, but to no purpose. *Dr. C.* had seen a large abscess of the mamma in a female infant, three weeks old.

Dr. H. H. Childs mentioned that it was a custom in many ignorant families to subject every new born infant to a treatment calculated to inflame the mammary gland, under the delusion that "something ought to be squeezed out," which would prove injurious if allowed to remain.

Dr. Brewster had treated several cases of diphtheria within the past month ; had used quinine and chlorate of potash internally, and local applications of nitrate of silver. In one case, that of a girl of six years, the disease had proved fatal from exhaustion on the tenth day of the disease. *Dr. B.* remarked on the frequency of sloughing of the tonsils in diphtheria. This result had also been observed by Messrs. Smith, Childs and Cady. *Dr. B.* also spoke favorably of the use of chlorate of potash in phthisis pulmonalis ; gives a half ounce of the salt daily.

Dr. Cady reported the following case for *Dr. George Lyman* : "Autopsy of Mrs. —, aged 32. Died October 29th. Post mortem October 30th. Near the anterior extremity of the sagittal suture, and about three lines from the falx cerebri, found a spiculum of bone about five lines in length, irregular, pointed at either

extremity; two lines in width and nearly the same in thickness in the largest part, imbedded in a fibrous mass formed by the adhesion of the pia mater to the dura mater; said mass filled with granular ossific deposit. About an inch from this was a nearly circular osseous deposit of about two lines in diameter, and a line in thickness upon the dura mater. Adhesion of the membranes existed for some distance around in irregular patches, and of various degrees of firmness. Strings of adventitious membrane of recent formation appeared irregularly over the anterior half of the cerebrum. The ventricles contained about three ounces of serum. About one-sixth of the mass of the cerebrum in contact with the fluid was of the consistence of thin cream. Grey nervous matter nearly all diffuent—corpus callosum and nerves passing out of the cranium but little more consistent than thick cream. Whole mass of brain soft and white. Vessels over upper portion moderately congested."

General History.—About 10th May, M. weaned a boy over a year old, and about a week after had a well marked epileptic fit. This was followed by others, at irregular intervals, till about the end of August, when dyspnœa came on, growing urgent, till physical examination determined the heart to be crowded over to the right of the sternum, the superficial measure of the left side of the thorax one inch greater than that of the right—dullness extensive. Absorption readily followed treatment, and M. slowly mended for about four weeks, when headache and nausea began to be complained of occasionally. About three weeks before death, these symptoms became very urgent, then gradually exchanged for coma which continued more or less seven days, when death ensued.

Dr. T. Childs reported for *Dr. Holcombe* a case of injury to the skull in a man of about forty, caused by being thrown from a carriage. The patient was comatose when found, and so remained for several hours, when complete restoration of intelligence took place, although drowsiness existed. Abundant hæmorrhage from both ears, and from the wound of the scalp to the amount of about a quart, according to the estimate of *Dr. McAllister*. The bleeding from the ears lasted for several hours. Blood was extravasated abundantly into the sub-conjunctival and palpebral tissue, although no evidence existed of a blow on the eye. The patient was partially deaf before the accident, since which, (for three weeks,) the deafness has been complete. Pulse not accelerated until a week after, when it rose to 120 per minute. The ecchymosis of the right eye had not disappeared. *Diagnosis*—Fracture of the base of the skull. The case interesting on account of the serious character of the injury, with the absence of serious symptoms, and its fortunate termination.

The Society then adjourned to *Dr. Collins' Institution*, where a most hospitable entertainment had been provided, and distinguished guests assembled, and the remainder of the day was given to festivity.

ORIGINAL COMMUNICATIONS.

ART. XXVII.—*Excision of Inverted Uterus; Death five years afterwards, from Phthisis; Autopsy.* By WM. HENRY THAYER, M. D.

The subject of inversion of the uterus has occupied an unusual share of attention within the last year, and the following rare and curious history may have more than common interest on that account:

At the close of March, 1860, I made a post-mortem examination of a patient of my friend, Dr. Johnson, of Keene—a woman who died of tubercular disease of the œsophagus. She had also been the subject of exsection of the uterus five years previously, under circumstances which were afterwards related to me by her mother—as the operation had been done elsewhere, and her last physician knew nothing about it.

The woman was 28 years old when she died. She was of a tuberculous family, and had always been delicate. She married at 19 years of age; had one child within the year, and none since. About two or three months after delivery, discovered a protrusion of something through the vulva, and began to menstruate profusely. She wore a pessary, and whenever it was omitted, the uterus was very low. Her catamenia were excessively abundant, and this state of things continued for three years, at which time she had become very much reduced, thin and extremely pallid.

There is no doubt, from the appearance of the remains of the uterus after death, that there was complete inversion of this organ, which followed labor—whether at once, or after some weeks' interval, or gradually in the course of that time, there are no means of knowing. Her physician then proposed and performed a more or less complete removal of the uterus, as the means of saving her life. The particulars of the operation I have been unable to obtain. The subsequent condition of the patient—which gives the case its chief interest—was learned from her mother.

For one year after the operation, there was decided improvement in health; she gained much flesh, appetite and strength, notwithstanding some uncomfortable head-symptoms which appeared once a month, at regular periods. These were at first moderate, and hardly gave much concern or annoyance for the first year. They increased gradually in severity, and after twelve months or thereabout became a serious trouble, and from that time there was no improvement in her general condition.

These symptoms came on suddenly at the menstrual periods,

and were exclusively cerebral. Her face became first flushed, and she complained of great oppression and pain in the head. Along with this there was marked confusion of mind, and loss of memory. If she were at table, she was obliged to leave it suddenly and lie down. The sense of oppression in the head usually continued for three days, with more or less mental confusion. She made no other complaint, either of sensations about the pelvis or elsewhere, and there were no other symptoms. Her memory was sometimes deficient for several days at other times. Her appetite, however, continued good, the urine normal, her bowels constipated, as was her habit.

She was always troubled from childhood with a catarrhal affection of the throat, and raised by hawking small solid masses, but had no cough. For the last three years there was a gradual decline in her general health. During the last winter her throat became more uncomfortable. In February, six or seven weeks before death, she got a serious cold from exposure on a rainy day, and from that time had great difficulty in swallowing. For three weeks she was able to swallow only liquids, and for the last three weeks of life, the greater portion even of liquids were immediately returned by the mouth—never by the nose. During these six weeks, she raised much white frothy mucus, with occasional sudden discharges of pus, and once about an ounce of blood. During the last fortnight, she had considerable cough, which had been hardly noticed previously.

Autopsy, March 31st.—Very little serum in pleuræ and peritoneum. Moderate, old adhesions at apex of each lung. Left lung has a considerable number of scattered tubercles in the upper half of the upper lobe, and one cavity filled with about one drachm of pus. Remainder of upper lobe and whole of lower quite healthy.

Right lung much like the left—the tubercular disease perhaps a little more extensive, but, as in left, inactive. This lung dark and infiltrated with fluid throughout—(the patient lay on her right side at the time of death.) Trachea normal, stained, and containing some mucus. Lymphatic glands along trachea and œsophagus enlarged and tuberculous; one containing a calcareous mass at bifurcation of trachea. Œsophagus very seriously diseased throughout its upper half. Great, irregular thickening of its mucous and submucous coats, intermixed with sinuous ulcers, so as to give the whole surface the appearance of an abundant growth of polypi extending into the cavity of the œsophagus, making it difficult to pass even a catheter through it. The elevations are found to be made up of tubercular matter, deposited in the submucous areolar tissue, usually of a firm consistence, but in some instances broken down or softened in the centre, covered by a much-thickened mucous membrane. Below the most diseased portion—which extends through half the œsophagus—are some

scattered tubercles, immediately beneath the mucous membrane, the largest as large as a cranberry bean, and gradually diminishing in size on approaching the stomach. Last fourth of œsophagus healthy.

Stomach somewhat reddened through smaller curvature, stained with bile near pylorus, empty, not abnormal. Intestines appeared healthy upon external examination. Mesenteric glands not altered. Lymphatics along smaller curvature of stomach, enlarged, apparently tuberculous.

Kidneys, liver, spleen and ovaries normal.

The generative organs are quite free from any appearance of disease, but the uterus presents the following peculiar appearance. Seen from the peritoneal aspect, the Fallopian tubes arise from the same point at the fundus, instead of coming from the two horns, an inch and a quarter apart. The tubes themselves are entirely impervious to the smallest probe or to air, at their uterine extremity. Down to within a few lines of the exterior of the uterus the probe passes readily through their cavity. The whole uterus resembling, when seen anteriorly or posteriorly, a hemisphere, from the top of which rise the Fallopian tubes at a single point, the horizontal base being what is now the mouth, and at the same time the broadest part, and as broad as the whole length of the organ.

On opening the vagina and examining the uterus from below, a very small portion of the upper part of the external face of the cervix remains, so as to furnish a small lip still to the whole circumference of the uterus. Within this the mucous membrane terminates abruptly, and there is a wide open mouth which forms the base of a short cone, whose apex rests under the present origin of the Fallopian tubes. This is the whole cavity of the uterus in its present state—it is entirely open, and presents a uniform mulberry-colored surface, with sinuses scattered over it, without a vestige of investing membrane.

The ovaries are quite natural, and contain together five corpora lutea in different stages, one quite recent, containing a coagulum.

From the present state of the uterus and tubes, it seems that the incision through the uterus must have included the whole fundus, with the terminus of the Fallopian tube at each extremity, and a superficial section of the whole body and cervix. The tubes were thus rendered impervious and brought together in the cicatrization, and an entirely new internal surface was given to what remained of the uterus. A section of the uterus in its present state would represent in its outer line a nearly perfect hemisphere, with the Fallopian tubes united arising from the top of the arch.

The specimen has been deposited in the museum of the Berkshire Medical College.

ART. XXVIII.—*Case of Fracture of Fore-arm.* By F. A. CADY, M. D., of Pittsfield, Mass.

I was called December 29, 1860, to see A. H., aged 40, spinner in L. P.'s mill, whose hand had just been caught in a belt, which wound the hand and fore-arm around the shaft, producing a compound and comminuted fracture of both the radius and ulna. When I arrived, the hand and lower part of the fore-arm was hanging at right angles with the upper portion of the fore-arm. The tendons of two of the muscles, and the lower extremity of the upper fragment of the ulna were protruding from the wound on the ulna side. The ulna artery was lacerated and bleeding profusely. I removed the protruding tendons, enlarged the wound on the ulna side, reduced the protruding fragment of bone, ligatured the artery above and below the laceration, closed the wounds and secured them with interrupted sutures and narrow strips of adhesive plaster. Then placed the fragments of bones as nearly in opposition as possible. The fractures being on the radial side about two and a half and five and a half inches, and those on the ulna side three and six inches above the wrist joint. In dressing the fractures no roller was applied directly to the hand and fore-arm, but broad splints were prepared and well padded, extending from the elbow to the end of the fingers, and about one and a half inches wider than the fore-arm and hand, so that no lateral pressure could be produced on either the radius or ulna. The splints were secured by a many tailed bandage. At the end of the first week the external wounds had healed completely, with the exception of the places through which the arterial ligatures were protruding.

On the 12th and 13th days the ligatures came away, and the remaining wounds healed readily, when I increased the amount of graduated pressure on both the anterior and posterior surfaces of the fore-arm.

At the end of seven weeks, the union of all the fractures seemed complete, and the splints were removed. The swelling gradually subsided, the motions of the hand constantly improved, and at the end of ten weeks the patient resumed his occupation as spinner, which he continued to pursue without any material inconvenience for about three months, or until the 12th of June, when in raising a small weight the fore-arm suddenly bent at the point where the bones were fractured nearest the wrist joint. I found on examination the provisional callous was absorbed over the fractured extremities at the point of breaking—only on the anterior surface of the fractures—and that there was no positive osseous union of the

fractured surfaces. At the point of the upper fractures the union remained firm.

After having rubbed the fractured surfaces thoroughly together, I dressed them with wide splints and starch bandage, which I renewed every two weeks until eight weeks had passed, when the I found the union apparently firm, and removed the splints.

The man now, August 21st, has again commenced work, and uses his injured arm, though not freely. There are several features in the case that have been of interest to me.

First, that the external wounds should have healed so readily under the pressure necessary to keep the fragments of bone in their places. Second, that the bones should have united so early in a case so serious and complicated. Third, that after having been apparently united for so long a time, they should have been separated by so slight a cause; and lastly, that having been thus separated, they should again unite with such facility, and in so short a time.

ART. XXIX.—*The Microscope; Its Value in Medicine.* By R. CRESSON STILES, M. D. Read before the Berkshire District Medical Society, August 28th.

At the last monthly meeting of the Society a resolution was passed designed to secure "written communications on subjects of practical value at each regular meeting." I regret that I have not had the leisure to prepare a worthier response to the design of the resolution. The subject is one that has occupied my attention for some time, but I can at present only glance at some of the principal points of interest which it involves.

Great difference of opinion exists in the profession respecting the value of the microscope in the science and art of medicine. While its important contributions to the science, to the establishment of correct ideas of the structure of the body, and correct reasoning on physiological and pathological processes is less contested, its value to practical physicians, to those who are occupied mainly in the application of the principles and rules laid down by the wisdom of the profession, or who are accustomed to take experience as their only guide, is too lightly esteemed. A due appreciation of the subject and object of a science, a proper conception of the value of the facts which the employment of any instrument or method of investigation is capable of furnishing is a safeguard against a too exalted, or too mean an estimate of the instrument or the method. Now the microscope does not create—it reveals—the character of vagueness and unreality in its revela-

tions, is presented only to those to whom they are a terra incognita; the facts which it brings to light we are not at liberty to use or neglect at pleasure; we *must* employ them if we would know the truths of organization and function. But the science is above its instruments, must control their employment, otherwise the inertia of a confused mass of facts offers a barrier to progress. A sensory apparatus is but an instrument of the mind—without the employment of the senses the mind wastes itself in suicidal speculation. The more perfect the sensory apparatus and the more its powers are increased by appropriate instruments, the greater the precision of the knowledge gained, the wider its range, and when this knowledge is coördinated and ingrafted into the body of a science, all controlling principles and laws are made known which it is the province of art to apply, and the application of which constitutes its real progress.

When the heavens were first scanned by the telescope, new and curious objects met the gaze of the observer; the instrument in the hands of the vulgar, or even of the Venetian Senate to whom Galileo presented his “wonderful tube,” was but an interesting toy, but its revelations furnished to Galileo the facts which demolished the Ptolemaic doctrines of the universe. When he recognized the Medicean stars to be Jupiter’s satellites, he could no longer regard the earth as the great centre around which the heavens revolved. The necessary facts were brought to light which enabled him to overthrow the errors consecrated by fourteen hundred years of the world’s credence. So the microscope in the hands of the great observers of modern times has effected a greater revolution in medical science than did the telescope in astronomy, and no wonder if the outcry of the monks and Aristotelians should find a counterpart in the opposition of the Brunonians, Cullenians, and conservatives of our day to the revelations of the microscope. So blind were the opponents of Galileo, that an astronomer of repute asserted that he had observed Jupiter “through Galileo’s own telescope, and that he did not more surely know that he had a soul in his body than that the so-called Medicean stars were illusions produced by reflected rays.”

Resistance to innovation has been stronger in medicine than it could possibly be in any abstract science. It is well known how a distinguished physician of this country responded to the suggestion that the stethoscope might prove a valuable aid in the recognition of diseases of the chest. “You might as well attempt to study astronomy with a clyster pipe.” We must be on our guard against the influences tending to repel the advantages offered by an instrument which makes serious havoc among the honored traditions of our science and art. Defects of vision are not calculated to make their possessors very assiduous cultivators of optical science, and among these I have found none more hostile to the microscope than presbyopia. It is quite common for those styling

themselves practical men to endeavor to bring the instrument into disrepute by representing its employment as little better than scientific trifling; by separating the knowledge it yields from the mass of scientific acquisitions as the "teachings of microscopy," of "microscopic anatomy," terms as appropriate as would be those of "telescopy," and "telescopic astronomy," which will soon become obsolete.

That grounds have existed for want of confidence in the teachings of the microscope cannot be denied, but these no longer exist. When a new science arises, or a new and powerful instrument of research is discovered, wild imaginings and extravagant anticipations are indulged in by enthusiastic students and manipulators, which serve to dazzle the credulous, but arouse the opposition of the cautious. To observe well is a rare gift. The imperfections of the instrument offered a strong temptation to substitute the play of imagination for the results of rigorous observation; when it was in the hands of but a few happy possessors, errors were liable to pass unchallenged. But these grounds of reproach no longer exist. Independently of the acknowledged fact that the possession of an adequate amount of scientific knowledge is necessary to constitute a reputable and skilful practitioner of medicine, the microscope is capable of constantly furnishing valuable facts for his guidance, and is often indispensable for a correct diagnosis of disease. The question for our decision is whether the facts which can be acquired only by the aid of the microscope are of such evident and wide bearing upon the physician's duties as to justify the employment of time and means in the acquisition of that experience in its employment which is necessary to render it available.

That a knowledge of anatomy, normal and pathological, stands at the foundation of all other medical acquisitions, cannot be contested. Without it, it would be impossible to localize a disease, to determine what organs are liable to be affected by proximity or association of action, or to understand the simplest functional or organic disorder. By the use of the microscope the advantage derived from a knowledge of anatomy is vastly extended, but it would be unjust to demand from a branch of a science a knowledge which the science, in its widest extent, is incapable of affording. While it is impossible that the microscope should reveal a function, or directly indicate a remedy, thus recommending itself to the attention of the most practical of practitioners, if anatomy is of any value in medical practice, we must claim for the vastly extended knowledge of it which the microscope bestows, a due share of attention. But the knowledge of structure gained by the microscope is of a kind which is particularly valuable, in forming a correct estimate of the influence of disease and of remedial agents upon the functional activity and structural constitution of an affected organ. Structural changes the most diverse in

their real nature, often present to the unassisted eye the same appearance. Almost every organ offers examples of this liability to confound together the most opposite pathological states. We may take the brain as an example. According to Dr. Bennett of Edinburgh, softening of the brain may originate in six ways:

1st. From exudation, which is infiltrated among the elementary nervous structures.

2d. From a mechanical breaking up of these structures from hæmorrhagic extravasations, whether in mass or infiltrated in small isolated points.

3d. From fatty degeneration of the nerve cells independent of exudation.

4th. From the mere imbibition of serum, which loosens the connection between the nerve-tubes and cells.

5th. From mechanical violence in exposing the nervous centres.

6th. From putrefaction.

Dr. Bennett uses the following language respecting the recognition of the resulting structural alterations: "All practical men agree in considering it a matter of extreme difficulty to reconcile with any certainty the morbid appearances found in the brain with the symptoms previously observed. The future microscopic examination of the softening may serve to prevent much of the error that has been hitherto committed. For instance, softening of the fornix, septum lucidum, and central parts of the brain may exist in two cases. To the naked eye they may be in every respect identical, and yet the microscope enables us to determine that the one contains granular corpuscles, whilst in the other not one of these bodies is to be found. It becomes evident, then, that previous to this distinction having been made, two different lesions were confounded together; and that a different train of symptoms should, under such circumstances, be occasioned, is only to be expected. Again, it has frequently excited surprise that, notwithstanding the existence of well-marked symptoms of softening, nothing was to be discovered after death. Now I have demonstrated in several instances, that although to the naked sight no morbid lesion was apparent, still portions of the brain might contain the same granular corpuscles as are to be seen in more apparent lesions; and that by considering such parts diseased, all the symptoms might be explained according to the pathological laws I have previously referred to. By excluding these sources of error, therefore, and by being enabled at once to distinguish the lesion dependent on inflammation from others which simulate it, we shall be enabled to obtain more exact data for future investigations. From the observations recorded, however, the two following propositions may, I think, be established: 1st. That pathologists have hitherto confounded softening dependent upon disease during life, with softening occasioned by post mortem changes or mechanical violence. 2d. That notwithstanding the most anxious

search, and the existence during life of the most decided symptoms of softening, the organic disease, though really present, has escaped observation."

These mistakes he says must be made "so long as the unaided sight is made the sole means of forming a judgment with respect to their nature," and again, "the naked sight is positively unable to detect lesions, even though they are directly indicated by symptoms, and carefully looked for by experienced morbid anatomists," and again, "no confidence can be placed in the analysis of cases, however numerous, when the sources of error now indicated have not been carefully excluded."

The heart will afford another example of the danger of confounding different morbid conditions. It is of the highest importance in the study of fatty degeneration of the heart, to know whether that disorder is owing to a fatty substitution, an atrophy of the muscular fibres by an abnormal development of adipose tissue, or to the conversion of the muscular fibres themselves into fat—the former disorder arising from an increase of nutritive activity, the latter from its diminution, the two diseases demanding a very different treatment. Yet the microscope is essential to their perfect recognition.

Whenever two kinds of organic matter, possessing slight coloration, but different refractive powers, are mingled together in a state of fine division a whitish color is the result; it thus happens that corpuscles of various kinds floating in liquids of various character and origin give them a creamy character and consistence; so that elements and tissues the most diverse and liquids holding in suspension corpuscles of the most opposite pathological significance are liable to be ranked together, and an entirely false estimate may be made of the morbid processes to which they are due. Concrete pus may be mistaken for tubercle, an innocent growth in the stage of fatty degeneration for malignant encephaloid; epithelial scales, fatty granulations, detritus of fibrine, and inorganic substances in suspension for pus, or confounded together. Cruveilhier was compelled to resort to a most unnatural hypothesis to explain the presence of what he supposed to be pus in the centre of the coagula in phlebitis, when the simplest microscopic examination would have revealed the true nature of the liquid and rendered error impossible. I have known emulsions of various kinds to be mistaken for pus, to the great perplexity of the physician. Leukocythæmia can only be recognized by the microscope; except at a very advanced stage of the vague but fatal disorders to which this name has been given.

Spermatorrhœa can only be proved to exist by the application of this test, and I know of one case which had baffled the skill of many physicians of acknowledged reputation in its recognition, and in which the true nature of the disorder had not been suspected until a microscopic examination of the urine was instituted

on suspicion of a different pathological condition. Similar cases are on record.

In a case of suspected infanticide, Robin was able to prove, by a microscopical examination, the stains found on the bed clothes to be those of meconium.

From a number of cases recorded by Bennett in his *Clinical Lectures on Medicine*, we take the following: "Some years ago I was summoned to see a Dispensary patient, laboring under bronchitis, who was spitting florid blood. On examining the sputum with a microscope, I found that the colored blood corpuscles were those of a bird. On my telling her that she had mixed bird's blood with the expectoration, her astonishment was unbounded, and she confessed that she had done so for purposes of imposition."

"A boy was brought to me with an eruption on the scalp, which was of so indefinite a character that its nature could not be determined. He had been lately elected to occupy a vacancy in one of our charitable educational establishments, and the question to decide was, whether the disease was or was not contagious. On examining the scab with a microscope, I readily discovered the *Achorion Schœnleini*, or fungus constituting true favus; and as this had been experimentally proved to be inoculable, I had no hesitation in preventing his admission to the school."

"A child was supposed to be affected with worms because it passed in abundance yellowish shreds, which, to the naked eye, closely resembled ascarides. All kinds of vermifuge remedies had been tried in vain. On examining the shreds with a microscope, I found them to consist of the undigested spiral vessels of plants; and they ceased to appear when the vegetable broth used as food was abandoned."

I have met with a case somewhat similar to the last. A patient visited his physician in great terror, fearing that his bowels were escaping. About a foot of tough tissue projected from the anus, which could not be voided, and the attempt to dislodge which produced a dragging sensation in the bowels. The physician removed it, however, with the forceps, extricating over a yard from the bowels, and preserved a portion for me for examination, when it proved to be the undigested fibrous tissue of dried beef, of which he had partaken largely, and which had become twisted into a thick corded mass by the movements of torsion of the intestines.

The value of a microscopical examination of the milk of the human female in forming an estimate of its nutritive qualities, and of its liability to produce disease in the infant, has been fairly presented by Prof. N. S. Davis, in a recent communication to the State Medical Society of Illinois.

Innumerable instances might be cited to prove that the microscope is able to furnish valuable facts for the guidance of the practitioner; but enough has been brought forward for our present limits and purpose.

The microscope also lends important aid in the diagnosis between morbid growths which under the name of cancer and malignant tumors, are such terrible scourges of humanity, and innocent productions which imperil health only by the fearful suspicions they arouse. Until recently complete ignorance of the real constitution of these growths has existed, and the greatest confusion has prevailed in their nomenclature and classification, under which little prospect existed of solving the mysteries of their causation, and discovering remedies calculated to repel them. We cannot expect to learn directly by structural alterations the functional derangements or the molecular constitution of the morbid agents to which they owe their origin, but it will be possible to rank their production under general laws which will indicate appropriate treatment. Thus it is not without significance that the epithelial scales of a chronic eczema resemble in structure those of malignant disease, or that many tumors (heteradenic) have a true glandular structure. It is most probable that a material cause exists for all morbid growths; that as, according to the law of Treviranus, "each single part of the body, in respect of its nutrition, stands to the whole body in the relation of an excreted substance," so morbid growths are excretory organs for some material generated in the system, circulating with the blood, produced by a want of harmony in the development and activity of the various organs, by errors of living, &c. Our knowledge of the constitution of the blood is still exceedingly defective—it is with difficulty that chemistry reveals in it the crystallizable substances of organic origin, the retention of which produces such serious disorders, (urea, lithic acid, &c. ;) how much more probable that *organic* substances, having a powerful influence over nutrition, should pass unrecognized, should be altogether unrecognizable by the aid of chemistry alone. For these substances the formation of specific cells would serve as *vital tests*. Thus the material of the spermatozoid could not be identified by any test known to chemistry; the development of the ovum is a sure proof of its presence. (I consider it proved that the fecundating influence of the spermatozoid is a material one.) So experiment might show a constant relation between the presence of certain organic principles in the blood and certain types of cell structure. I have experimented far enough to show that exceedingly minute portions of different organic matters in hermetically sealed tubes with identical liquids, and the same microscopic vegetable growth exercise a powerful influence over the development of the latter.

There are several causes which interfere with the recognition by the microscope of the benignity or malignancy of morbid growths :

1. There is a great similarity between the earliest stages of all the cellular elements just as the most different species of animals and plants arise from germ cells which offer no distinguishing pe-

cularities of structure. But their specific character is as real in the earliest stages of development as when the development has been perfected. The material is different from the outset. It is from a failure to estimate justly this fact that some physiologists have been led to derive promiscuously the tissues from one another, and have caused metamorphosis to usurp the part which properly belongs to the generation of distinct species of elements, and these errors will continue until we have a physiology and pathology of organic matter, and more subtle methods of research into its molecular constitution than any which chemistry has at command. We esteem a *cellular* pathology to have as narrow a range as would have a *crystalline* chemistry, or a purely *crystalline* mineralogy or geology.

2. A strong constitutional tendency may give to growths of innocent structure, to hypergeneses of the normal constituent elements of the body, the character of malignancy; as when fatal obesity results from a tendency to accumulate adipose tissue, or fibrous tumors produce death by their number, size, and interference with vital functions.

3. Exceptions occur in the mild course of tumors whose structure is almost always accompanied by malignant inroads upon the system. Thus encephaloid cancer has been known to recede and disappear entirely. Nélaton, than whom there is no better authority, cites such a case where the microscopic examination was made by Robin, and gives others on the authority of Rayer, Bérard, and Maisonneuve. "The conclusion," he says, "which follows from these facts is, that in certain cases excessively rare encephaloid tumors may disappear after having determined the destruction of the bones, and producing a loss of substance of greater or less extent."

Although these sources of difficulty exist in the prognosis of the course of a morbid growth by the aid of the microscope, a truthful response is given by it in a large proportion of cases where the unassisted eye would offer no reliability. Myeloid tumors may be cited in illustration. These growths present great varieties in their appearance from differences in vascularity, liability to fatty and osseous degeneration, and cystic formations within them, rendering their diagnosis a matter of great difficulty without the aid of the microscope. These tumors are generally benign, and have for their fundamental element a normal embryonic element of bone, characterized by multiple nuclei, very easy of recognition by the microscope, (myeloplaxes, plaques a noyaux multiples.) In 1856 I had the opportunity of examining under Robin's instructions one of these tumors on an arm amputated by Larrey, from a patient resident No. 1 Rue de Fleurus, where I was then residing. On going to my old quarters in 1860 I found the patient in good health, and giving proof of the correctness of Robin's prognosis. I have since examined several

of these growths, and have not been disappointed in a favorable prognosis, yet to the naked eye they presented the characters of cancerous osteo-sarcoma, and encephaloid.

I would willingly dwell upon the resources the microscope offers in the ready recognition, by the aid of crystalline types, of the inorganic substances and crystalline substances of organic origin, which take such a large share in physiological and pathological processes; upon the necessity of an appeal to micro-chemistry in order to form a correct idea of the nature of elements which, crowded together in the complex tissues and organs of the body, cannot be isolated for elementary analysis by the usual chemical appliances; upon the aid furnished by the microscope in tracing diseases to parasitic origin, animal or vegetable. In connection with researches on these subjects, we find the names of Robin, Verdeil, Lehman, Virchow, Bennett, Leidy, and others, which we cannot mention without associating them with the surest and farthest advances of modern medicine. But I must bring my task, however incomplete, to a close, not however, without the sincerest hope, that no preconceived prejudice will reject any aid by which surer prevision and higher efficiency may be added to the resources of the profession.

SELECTIONS.

FOREIGN CORRESPONDENCE.

Dr. S. POLLAK, in the St. Louis Medical Journal.

Scientific and learned associations have existed in France for centuries; they were independent of all government patronage and interference. *Colbert*, the great Minister of Louis XIV., was the first who acknowledged their importance, took them under his especial care, and endowed them largely. On the 22d of August, 1795, the "Republic of France" united them all, under the name of "Institute of France," a name which it has ever since maintained. It was divided into many distinct academies, which have changed with nearly every existing government; the last or rather the present are the five following:

1. L'Académie Française.
2. L'Académie des Inscriptions et Belles-Lettres.
3. L'Académie des Sciences.
4. L'Académie des Beaux-Arts.
5. L'Académie des Sciences morales et politiques.

The Academy of Science is divided into eleven sections, one

of which is the section of *Medicine and Surgery*. Consequently our profession occupies as yet a very subordinate position in the *Institute of France*. As such it meets in the building of the Institute, and its transactions are published by the Institute. Conscious of deserving a more elevated and independent position, another and wholly independent Académie de Médecine has been formed, which it is expected will soon be incorporated with the Institute of France, but as a separate division.

The Académie de Médecine owns its own building in the Rue de Saints Pères, and holds its meetings every Tuesday afternoon from 3 to 5 o'clock.

The Académie de Médecine can only have one hundred members, and no more. Vacancies by death or resignations are filled by concours. It is the highest professional honor to be elected a member. Hence, only the oldest and the most distinguished men in the profession belong to it; but hundreds not members attend the meetings. The room is not large, and so densely crowded, that it is always filled an hour before the session begins. The members as they enter register their names on a sheet of paper. Punctual to a second, the President takes his seat, draws a score under the last name and signs it. None can be registered under the President's name. All who come in after that, are only entitled to their seats, but excluded from participating in the debates or voting, and are fined, besides, fifty sous. You can imagine how few are found absent at the opening of the session. The Académie is subdivided in the following sections:

- 1 Section—Anatomie et physiologie.
- 2 " Pathologie médicale.
- 3 " Pathologie chirurgicale.
- 4 " Thérapeutique, et histoire naturelle médicale.
- 5 " Médecine opératoire.
- 6 " Anatomie pathologique.
- 7 " Accouchements.
- 8 " Hygiène publique, médecine légale et police médicale.
- 9 " Médecine vétérinaire.
- 10 " Physique et chimie médicale.
- 11 " Pharmacie.

The members are distributed in these sections, and no member can belong to any more than one. In the section of Physiologie, there was no vacancy for seventeen years, and not until the 5th of March, 1861, has the great and distinguished physiologist, *Claude Bernard*, the man of the times and the pride of France, been elected a member, to succeed M. Dumeril, lately deceased. Of course, his election was unanimous; but usually there is much canvassing, log-rolling, and intriguing going on, almost equal to the United States. *Robinet* is the President this year; *Bouillaud* Vice President; *Robin*, Secretary.

There are other Medical Societies in Paris, independent of each other, which hold regular weekly meetings, always in the daytime. The number of members is limited, and only elective on furnishing an *original* thesis on any subject. It takes several years before an applicant for membership can take a seat. They all have poor rooms, but good libraries. The transactions are minutely published in the numerous medical journals. They are worth publishing indeed. For only the ablest men are elected, and they are strictly kept to the rules, and time of speaking. They speak to the point, waste no words. Of course, a personality is never thought of, no matter how great the difference of opinion. Thus, M. Trousseau, who is watched with argus eyes, lately propagated some new theories on the subject of Apoplexy, and calls a frequently occurring disease *rheumatismal apoplexy*. In his lectures, in his forthcoming new work, and in the Academy, he launched out his new "really theoretical" ideas—he is more ideal than practical. At once, he was pounced upon by all the psychiatrists of the day. Only *Fabret, Delasiauve, Bouillaud, Baillarger, Grisolle*, have spoken; at least twenty more are on the list; they will all have their turn. After every speech Trousseau gets up, shakes hands with them, and embraces them, though they are all his *opponents*—just as in St. Louis: (?)

The Psychological Society . . . meets every Monday.

" Medical Society (or Academy) " " Tuesday.

" Chirurgical . . . " " Wednesday.

" Obstetrical . . . " " Thursday.

" Ophthalmological . . . " " Friday.

" Biological . . . " " Saturday.

They are all interesting and instructive in the highest degree.

The *American Medical Society* is defunct long ago—cause, want of interest, want of money, want of every thing. An alliance with the German Medical Society was proposed, but declined. They presented their small and dilapidated library to the *École de Médecine*. Very few Americans attend the meetings of the different Academies, and justly so; for there is not one in twenty who understands the language. It is a very great mistake for American students or physicians to come here before they learn French. But more of this hereafter.

I will return to my *itinerancy* to and through the Hospitals of Paris, and commence with the *Hôpital Beaujon*, 440 beds; for males, 234; for females, 206; for medical, 262; for surgical cases, 178. The physicians are *Béhier, Gubler, Frémy, Moulard-Martin*; the surgeons are *Huguier* and *Gosselin*; the latter quite a celebrity, his chirurgical genius having been inherited from his father.

Beaujon is a beautiful hospital; the system of pavilions united by a covered gallery is here observed, as in the Lariboisière. It is well kept and has a very active service. I was glad to meet

with two young American physicians of New York as externes there—which is, in fact, the only possible way for young physicians to learn something here. The physicians go through their visits quite mechanically, without spirit or good will. It is soporific in the extreme. But Gosselin is a wide-awake, driving man, a bold, skillful surgeon, a courteous gentleman; likes to see visitors, and takes all pains to make a visit profitable. He will consult visitors, and frequently adopt their suggestions, which Parisian surgeons are not apt to do.

An extirpation of an encephaloid tumor of the neck, by means of sixty-four caustic *flèches* terminated fatally on the third day. Here also is erysipelas, the bane of the surgeon, though not as much as in many other hospitals I saw, owing to a rigid cleanliness and a freer ventilation. Ventilation, or rather a draught of air, is the bugbear of the French. In hospitals and in private houses they hardly ever open a window. The surgeons insist that a current of air will bring on tetanus. My observation, that it is just as well to die of tetanus, which is an extremely rare occurrence, as to die of erysipelas, which is a *tri-daily* event, was not well received by the old surgeons, but quite coincided in by the younger ones.

They dare not perform here *many* capital operations, owing to the fatal result consequent on the supervention of erysipelas, which in these crowded, illy ventilated hospitals is inevitable. Many patients having acute eruptive diseases are mixed with the others, though the terrible effect is daily manifest.

There is scarcely a medical ward in the Parisian hospitals without cases of *small-pox* in it. In Trousseau's ward there are nine in one room. If a person is well vaccinated it is all they inquire after. In the different *salles des nourrices*, mothers and infants are alike taken with small-pox. Vaccination and re-vaccination is rigidly and regularly practised, but not always with the desired effect. Vaccinia and variola go through their different phases simultaneously without much influencing each other's characteristics. The disquisitions and discourses of the chefs de clinique are learned and interesting, but they never yet proposed the *only* remedy in such cases: the separation and isolation of small-pox cases from other patients and from contact with the community.

I have made inquiries at the Beaujon about the official service of the homœopathist, M. Tessier, who was there five years. I had the *promise* the necessary information would be given me. It required much time and labor to examine the journals. When I called again, I received a polite note from M. Husson, the director general of all the hospitals, excusing himself for *not allowing* such examinations to be made. He said: to examine the journals is a labor of several weeks, which he is not willing to allow to be made without an especial order from the government. This order would not be given without first conferring with the Facul-

ty of Medicine, and the latter would doubtless object to it. And, unless he gives me the necessary information authoritatively and officially, it would not be credited. Hence, he reasonably concluded not to give me any. He simply added, verbally, "Homœopathy is not recognized by the government." Mr. Tessier received his appointment by concours, as well as any other chief. Once appointed, he is autocrat of his ward. None has a right to question his mode of treatment. Tessier received the first appointment in 1839, and has been in service ever since. His success is about the same as the others, but whether he strictly homœopathized, he does not know. Certain it is, that his orders for cod-liver oil, quinine, wine of quinquina, iron, and saline purgatives, are just as large as those of any other service.

The *Hôpital Cochin* is the smallest of all the hospitals of Paris. It has only 125 beds, is under the charge of *De Saint Laurent* as physician, and *Desormeaux* as surgeon. It would hardly attract attention but for the ingenuity the latter is imagined to possess in inventing new scopes, which he calls *urethroscope* and *endoscope*. This is the age of scopes. We have got now a *stethoscope*, *rectoscope*, *vagina-scope*, *auro* or *otoscope*, *ophthalmoscope*, *laryngoscope*. The last two, comparatively modern; the French, envious of *Helmholz* and *Ozernack*, for the invention of the last two instruments, taxed their ingenuity, and gave birth to an abortion. *Desormeaux's* urethroscope is nothing but a voluminous clumsy catheter of metal, with a cleft on one side, so as to permit the introduction of a stilet, or of caustics. To the outer end is attached an illuminating apparatus, which throws a few feeble rays, through this catheter, to the inner end, where a very small portion of the interior surface of the urethra may be seen. It is just as clumsy as useless, and as costly as ridiculous. But he goes still further, elongates this catheter an inch or two, bends it at an obtuse angle, and here is a small glass window, through which the light is thrown into the interior of the bladder. Of course the bladder must be filled. He pretends that he never fails to see a calculus without feeling it. This lantern of the bladder is even more ridiculous than the urethroscope. The introduction is excessively painful: the instrument very costly. The illuminating apparatus alone cost 300 francs. He will find none to contest the priority of invention. He is welcome to all the glory and fame of it. He is otherwise a good surgeon, an amiable man, and took it kindly when I called it the lantern of the bladder.

Hôpital du Val-de-Grâce is a military school and hospital. Only graduates are admitted as students, where military medicine and surgery are practically taught. I regard it as by far the best school in Paris, superior in every respect to all the others. Admission is difficult to obtain, and at the best is very limited. It is under the charge of a large corps of teachers, who are known both for their bravery and skill. They all lecture and hold clinics

in their uniform, and are abundantly decorated. The students are also in their rich uniform. There is no crowding around the bed, but all can see and hear well. It is delightful to see the order, neatness and quietude predominating there. I will enumerate the names of the Professors, and the subjects they teach; for it is entirely different from any other medical school:

Director—Michael Levy.

Professors—Clinical Medicine—Godelier.

Clinical Surgery—Legouest.

Epidemics and Diseases of Armies—Laveran.

Operations and Surgical Apparatus—Lusterman.

Hygiene, Legal Military Medicine, and Administrative Rules—
Champonillan.

Toxicological Manipulations and Chemistry, applied to Hygiene—
Coullet.

There are besides the following *agrégé* Professors—Lallemand, Trudeau, Baizeau, Desgardins, Cohn, Perrin, and Boussin.

Nothing can exceed the dexterity and skill with which operations are performed, and wounds and injuries dressed. It is no wonder that the French are so far ahead of any other nation in their *field* medical appointments and arrangements. Nothing is wanting, everything has its place, everything is abundant, nice, tidy, and compact. They have to go through the regular exercises of packing and unpacking all the equipments appertaining to an ambulating hospital, within an incredibly short time. A hospital put up, and again struck and snugly stored away, did not take twelve minutes. I would have rather attended regularly here than at any other hospital in Paris. But my permission was only for three days. However, I learned many practical hints, which I will try to remember when required. This, and the little military surgery I saw in Naples, is to me invaluable. It is not read about, it is not taught, it must be seen. If a war breaks out, before I leave Europe, I will try to take a few more practical lessons. The courtesy and politeness of the Professors at Val-de-Grace will always be remembered with gratitude, especially Mons. Godelier and Mons. Legouest.

The *Asiles Impériales de Vincennes* and *Vesinet*.—These are two large and new institutions, unlike any other in the world. They are *maisons de convalescence*, or houses for convalescent patients—Vincennes for males, 420 beds; and Vesinet for females, 320 beds. They are about ten miles apart, occupying extensive richly improved grounds and presenting a palatial appearance, abounding not only with comforts but luxuries, such as were never known in institutions of charity before. They are both creations of the present Emperor. Vincennes was opened in 1856, Vesinet in '59; and are intended for the reception of convalescing patients from all the hospitals of Paris, which are so crowded, that a patient, if he recovers, cannot possibly fully recuperate there. They are sent out for twenty days to these two houses, where the delight-

ful air in the country, the healthy diet, and other accessories, never fail to restore them to activity and usefulness.

Everything which science, common sense, and experience could suggest to render these two hospital institutions true convalescing places, has been done. Never have institutions shown better results than these, and they ought to be imitated in every country. Few patients can regain their wonted strength in a crowded hospital; and if sent out too soon, and compelled to work for a living, they soon must come back, or succumb.

But these two convalescing asylums present a beautiful but severe criticism on Parisian practice of both medicine and surgery, especially the latter. Over 1800 cases of fractures were admitted in 1860, in Vincennes, and never, I aver, were such awful results known before. I exempt no hospital of Paris; they came from all. But so many shortened and distorted limbs are unpardonable. The Parisian surgeons are quick and very good at cutting, but are very poor bone-setters. Marjolin, in St. Eugénie, is yet the most successful; but as to the rest, they are shocking. No surgeon could maintain himself with us with such results. Whether the vitiated air of the Paris hospitals is the cause of it is not for me to say. Of course I have no knowledge how they succeed in private practice.

One more hospital I have to mention, which is *Bicêtre*, of 3,400 beds, under the charge of *Leger*, *Voisin*, *Moreau*, and *Delasiauve*, physicians for the insane; the latter having particular care of the idiots, epileptics, and paralytics. This immense establishment is absolutely unworthy of Paris, badly kept, dirty and filthy. It is at once seen that the Sisters of one or the other religious order have no hand in it. It was once a Caserne, it is now a hospital, and ought to be abolished. It is uninteresting, except the department of the idiots, which they endeavor to reclaim by means of gymnastics, and suitable mental (?) exercise. They are far behind those in the United States, or even England.

I might mention a number of *hospices*, with important, but not always interesting medical services, but the above must for the present suffice.

Enough has been said to show the *immense* hospital accommodation Paris possesses. There are over 24,000 beds in the different *hospitals*—not *hospices*—besides, there is a *consultation gratuite* (dispensary) attached to every hospital, where not less than 300 patients at each are daily prescribed for, and medicines given gratuitously. Add then the numerous *maisons de santé*, the large number of private clinics, and I am within bounds when I say that 60,000 persons are daily seen and treated gratuitously by the profession. What class of people can claim such charity! Do the merchants with all their boasted liberality do the same? Do the lawyers? or even the clergy? It belongs to our noble profession to be the personators of charity, and next to them to that

disinterested, self-sacrificing corps of women, of the various religious orders of the Catholic church. To have them as co-laborers is to have half the work done, and well done. May we always have them as our allies.

Now compare the amount of hospital accommodation of Paris with any city in the United States, say St. Louis. Paris with a population of 1,800,000 or 2,000,000, with 24,000 beds, and as many again floating patients, gratuitously tended. St. Louis with one-tenth or one-eleventh of population, has not in all one-twentieth beds, and not one-seventieth ambulating patients provided for. Comment is unnecessary.

There is no greater mistake made, than when young, unexperienced American physicians, *without a knowledge of French*, come here to study medicine. It is time, labor and money lost. Lectures are wholly incomprehensible to them, and cliniques not more so; for they invariably attend the central ones, (Charité, Clinique, Hôtel Dieu,) which are so crowded that not one bed in ten can be approached. And if approached, what is to be learned in this galloping way of doing business? If they would attend to the hospitals in the periphery of Paris, they might profit *some*, but I aver that no good can possibly arise from their attending the central hospitals. I see it daily, for it keeps me busy to explain the most apparent things.

But for the experienced practitioner, who at a glance will see what is going on, and to him who understands and speaks the language, Paris has no equal. Not at the lectures to students or at the sick bed of the great hospitals, but at those numerous private cliniques and courses of lectures on almost every imaginable subject. The truly great men of Paris must be sought after; they are hardly ever before the public. As a School of Medicine, Paris is greatly inferior to Vienna, Berlin, London, Edinburgh. They are not as rigid nor as censorious in examination, and are *wholly impracticable for us Americans in their treatment*. Many important branches are not taught at all; thus, the diseases of the eye have no chair. One must go to private cliniques to learn something. But for *Desmarres, Sichel, Deval, Fano*, Paris would not be able to see! In Vienna, the two brilliant and rival men, *Arll* and *Jäger*, attract crowds from all parts of the world. In Berlin are *Jünken* and the immortal *Gräfe*. All nations flock there. But Paris has no chair; why? because the old fogies of the faculty, *Velpeau, Dubois, Bonillaud*, do not like specialties, and yet they are specialists themselves.

The Obstetrical chair is filled by *Dubois*; but this old foggy declines to give a course of lectures this year; he only attends the cliniques—doubtless the meanest that can be imagined. Such midwifery is *killing*, literally; for the mortality there is unparalleled.

To attend private courses is very laborious, very expensive.

Still, it is the only means to profit from in Paris. Those who have neither time nor money to spare, or those not accustomed to very hard work, had better stay away. Let no one come here who does not somewhat understand and speak French. Many I know who spend all their time in learning French first; in the meanwhile their means give out, their patience is exhausted, and they have to go. Why not rather go to London, Edinburgh, or Dublin? In fine, Paris is an unrivalled place for men of experience, with full knowledge of the language, not stinted in means, and of untiring industry; any one who has not the command of these, had better try another place.

Already has this communication passed a reasonable length. I will stop short, though much I have got to say must be left to some other occasion.

I have visited in Europe thus far, fifty-two Institutions for the Insane, familiarized myself with their organization, management, and plan of treatment. I got the printed reports of most of them, of which I will make a copious use in some subsequent communication. In France and England, printed documents relative to public institutions are easily obtained, but in Italy not at all, and in Germany only with great difficulty and greater cost. In Italy they never make reports; in Germany they make them, but do not often print them. They are handed to the proper authorities, who put them among the archives, where they remain undisturbed. If a report is ever printed, it is put in bookstores for sale, to be obtained only for more than its worth.

In England and France reports must be made, and are all printed, to be given *gratuitously* to any one who interests himself in the subject they treat about. Very numerous invaluable documents have I obtained from the various Ministers by merely asking for them in writing. I was not bashful in asking. But in Berlin they do not print; I could get nothing at all from the government; and in Vienna, they print *some* and *sell*; all I obtained had to be dearly paid for.

What a contrast between different countries, all alike making pretensions to enlightenment and liberality! In Belgium, the government is as liberal as in either France or England, but employes like to earn a penny from unsophisticated tourists, which unfortunately for them I was not, and *demand*ed peremptorily what they pretended to give only for particular considerations.

Nothing can exceed the courtesy with which an earnestly enquiring tourist is everywhere received in Paris. Every facility is given him to attain his object. From the Minister down to the humblest employé, it is all the same. How much my countrymen might profit here, if they only would evince an earnest willingness to learn.

I may not be able to write from Paris again, but will do so from England, and reserve myself abundant material for many commu-

nications when I am quietly seated at home, in my own St. Louis.

Addendum.—I wish to add my appreciation of and thanks to the following three persons :

1. *Claude Bernard*, whose bi-weekly lectures and practical demonstrations in Physiology at the *Collège de France* I have regularly attended, and found myself among an auditory, the like of which cannot be seen elsewhere ; nor so much on account of numbers, as for character and standing. Celebrities and high authorities, not only from Paris but from all parts of the world, attend these lectures. As a lecturer Bernard is very indifferent, but as a demonstrator he is unrivalled. He no sooner enunciates a physiological fact than he *proves* it. The crucible, the test-tube, the galvanic battery, are constantly being tried on numerous dogs, cats, rabbits, horses, sheep, frogs, etc. First he speaks, then he draws, then he experiments with equal rapidity and success. Grey-headed, richly decorated savans fill the hall, and bow respectful assent to the *new* and to the world *unknown* facts. I have had the honor of being frequently in his company. He is a child in manners, but a giant in intellect.

2. *Charles Robin*—Lectures and microscopical demonstrations in Anatomy and Pathology. An honest and faithful worker, and a rigid enquirer after *truth*, he admits nothing which cannot be chemically and microscopically *proved*. Hence, all he says is implicitly relied on. He does not compile, but he examines, tests and proves. He is justly regarded as the most reliable anatomico-pathological authority extant.

3. *E. Follen*, whose weekly lectures and demonstrations on Optics, with microscopical and ophthalmoscopical apparatus, are too attractive not to be followed by all enquirers into the revelations made by these instruments. Fluent in delivery, rapid and accurate in drawing, successful in manipulation ; he is amiable, courteous, and in possession of abundant material.

I wished to add the names of these three men to the above (my third) communication, so that no American may neglect seeing them. Though my countrymen may not always *understand* what they say, they can at least *see* what they do, and profit by it.

CORRESPONDENCE.

INTERMARRIAGE OF RELATIONS.

MESSRS. EDITORS: Within a short time, the evil results of marrying one's own near relation has been brought to my notice in this institution. I have often read and heard, and thought I had seen, something of the imbecility which follows blood marriages; but never before have I seen anything more disgusting and heart-sickening than *four idiotic cases*, to which my attention has recently been directed.

Four children, one daughter and three sons, were admitted to this Institution, all idiots, and the fruit of a marriage of *own cousins*. Those who are indifferent on this subject would do well to take heed, for four consecutive births, all idiots, from parents who are first cousins, tell their own story too plainly to be misunderstood. Could the people at large know and remember this evil, would not idiotic births be less numerous?

For the welfare of society, I give publicity to these facts because they are true. The really wise will be benefitted and live accordingly.

JOHN M. BREWSTER, JR.,
Supt. Monson State Alms House.

July 27, 1861.

RED ROCK, August 12, 1861.

MESSRS. EDITORS: It may be a matter of interest to the medical profession, to know that diphtheria, in its most malignant form, is prevailing in several localities in this county, (Columbia Co., N. Y.,) at the present time. At Mellenville and Harlaemville, two villages located about six miles apart, the disease has been very prevalent and very fatal. Of the prominent characteristics of the epidemic in those places, I am not informed, nor of the exact fatality, further than that the disease in many instances has progressed to a fatal termination very rapidly, and as many as four and five fatal cases have been reported in a single family. Six children were reported to be lying dead in one day, at and in the vicinity of Mellenville.

I saw one case, in consultation, near Mellenville. The case

was somewhat singular and unusual, from the fact that while the general symptoms were characteristic of diphtheria, the throat presented but little appearance of the disease. The patient (a little girl of six or seven years) had been sick four days. The surface was hot and dry, pulse 120; the respiration was easy, except when the patient was sleeping, when it was attended with that snoring sound so common in diphtheria. The expression of the countenance was indicative of diphtheria, and symptoms of very slight coma were discernable. The membranes of the pharynx and fauces were somewhat inflamed, but the uvula and tonsils were not swollen, and no false membrane was discernable. I learned that the case terminated fatally five days afterwards, the disease invading the larynx and nasal passages, the fauces and pharynx remaining but little affected.

Query—Is diphtheria always primarily developed in the fauces and pharynx, or do cases occur where the development of the disease occurs primarily in the trachea and bronchial tubes, passing to a fatal termination without invading the upper portions of the throat? And how many sporadic cases of diphtheria of this character occur, that are diagnosed as croup?

Yours truly,

E. W. BOSTWICK.

ABSTRACT OF CURRENT MEDICAL LITERATURE.

ARTIFICIAL FEEDING OF INFANTS.—There has long existed a prejudice, both in and out of the profession, in favor of vegetable food, particularly farinaceous, during the earlier periods of existence. The views upon which this prejudice is based are altogether erroneous. Vegetable food is neither easily digested, nor, in the proper sense of the term, nutritious. To some extent the erroneous views in reference to this subject have been corrected by recent more accurate observations. According to Dr. Routh, the earliest period at which vegetable food can be borne is about the eighth month. "The teeth which appear," he remarks, "are not of value because they are then capable of mastication, but simply as evidence that changes have occurred in the organs of digestion, which have progressed *pari passu*, and that the salivary and pancreatic glands of the membranous stomach are in full development, and capable of digesting vegetable aliment. Then, and only then, therefore, as a rule, may vegetable food be given, and consequently weaning may be tried, if necessary." But even then only the most easily digestible vegetable substances should be allowed at

first; and it is best to continue, also, in great measure, the animal milks in combination. (*American Journal of the Medical Sciences.*)

We believe there is no suggestion in relation to the management of infants, which requires to be more strongly urged than the one just quoted: the necessity of feeding them with animal food. For in the range of our experience, it is very common, even with physicians, to substitute starch for milk as soon as the child exhibits any symptoms of indigestion. Arrow-root (starch) will not support life, and is less well digested than milk. Dr. West says, "Unfortunately the farinaceous articles of food which are so often selected, on account of their supposed lightness, as fit to form the almost exclusive diet of infants, belong to the class of substances that are assimilated with difficulty;" so that in a child that is brought up by hand and fed on this class of alimentary substances, the food passing undigested through the intestines, undergoes fermentation, and diarrhœa results. "But even," he continues, "were such substances more or less assimilated, the evils of such a diet would not be half remedied; for not only are the sago, arrow-root, or gruel, with which the child is fed, in themselves less easy of digestion than the milk, which is its proper aliment, but, when reduced to their ultimate elements, they present essential differences from it, and differences by which they are rendered so much the more inapt to nourish the body during the period of its most active development and growth."

We cannot refrain from quoting still further from Dr. West's excellent lectures, the following more systematic comparison of milk and vegetable diet:

"In milk, the proper food of infants, the elements of nutrition are to those of respiration in the proportion of 1 to 2; while in the arrow-root, sago and tapioca, they are only as 1 to 26; and even in wheaten flour only as 1 to 7. If to this we add the absence in these substances of the oleaginous matters which the milk contributes to supply the body with fat, (and which can be eliminated from farinaceous substances only by a conversion of their elements, to which the feeble powers of digestion in early life are not equal,) and the smaller quantity, and to a certain extent, the different kind of the salts which they contain, it becomes apparent that by such a diet the health, if not the life, of the infant must inevitably be sacrificed."

When it becomes necessary to bring up a child by hand, the substitute for the mother's milk should be made to resemble that substance as nearly as possible—a proposition supported by reason and experience. The milk of the cow—which is commonly used as most accessible—having more casein and less butter than the human milks, is best adapted by using the cream diluted with water, and sweetened to about the saccharine guage of human milk.

Dr. Cumming, of Williamstown, last year took the trouble to make a calculation of the proportions of cream and water required from month to month to correspond with the regular changes in the quality of human milk, so as to enable mothers and nurses to imitate the natural milk as nearly as possible. The butter steadily diminishes, and the casein increases, and artificial milk must be frequently altered to correspond with this natural change. Dr. Cumming's schedule, which we think was first published in the *American Journal of the Medical Sciences*, has since been circulated in our neighborhood, for the convenience of physicians. It can hardly be necessary to say that while the proportions of cream and water which it recommends are generally correct, yet in individual cases we are obliged to vary the proportions and the amount: some children, even in health, will not digest milk so rich as is suited to the generality, and the daily amount taken by different children of course varies very much. In many cases where artificial feeding is used, it is an advantage to leave out most of the casein, that being the portion of the milk usually most difficult of digestion, as we see by the presence of quantities of curd in the evacuations. We have resorted in many cases of diarrhœa or of indigestion, to the temporary use of rennet-whey as the exclusive diet, thereby sufficiently avoiding the objectionable ingredient. We find in the *Cincinnati Lancet and Observer* for July, the following timely remarks upon the subject, from the pen of Dr. C. A. Logan, of Leavenworth, Kansas:

"For infants, within three months, who have unfortunately been deprived of their natural aliment, and especially for those whose stomach and bowels have become so irritable from the unnatural cramming of improper food, that they can digest nothing, however simple, I have found the *rennet whey* to be a most satisfactory food—being easily assimilated, meeting the requirements of the system, and allowing the impaired or lost digestive tone to be restored to a normal condition. The method of preparation is, to heat perfectly pure and sweet milk to a temperature of 12°, and to each pint drop in a piece of rennet about the size of a pea. When coagulation of the casein ensues, strain through a coarse cloth, sweeten well, and it is ready for use. By boiling, it is rendered susceptible of being kept much longer.

"This process reduces largely the per centage of the casein, while it does not interfere with the respiratory elements of the food. It is sufficiently nutritive for the early weeks of infancy, and especially in those irritable conditions before mentioned.

"It must be remembered that the entire amount of casein in the milk is not coagulated by the rennet, for a certain portion of casein is contained in the oil-globules, which constitute the cream—quite enough, probably, for the purposes of histogenesis. If, however, individual cases require a larger per centage of the nitrogenous element, small quantities of pure milk may be afterwards added."

Dr. Meigs recommends very highly a mixture of gelatine, milk, cream, arrow-root, sugar and water.

Indigestion and diarrhoea are tedious in children under any and every diet during summer season. Slight changes in the food, within proper limits, are often desirable, and will be determined from time to time by the condition of the child. Quite as much depends upon the care used in the preparation and the freshness of the milk, as to the definiteness of the proportions. The addition of lime-water to the milk, which may be required whenever there is any tendency to acidity, is not at any time objectionable.

EPIDEMICS OF PHILADELPHIA FOR 1860.—Wilson Jewell, M. D., reported to the College of Physicians of Philadelphia, on the meteorology, epidemics and mortality of the city for 1860, which is published in the *American Journal of the Medical Sciences* for July.

The number of deaths was 11,568. Under five years of age, 5,704, or nearly fifty per cent. The number of deaths from several zymotic diseases were, by cholera infantum, 514; diphtheria, 307; scarlet fever, 591; small pox, 57; measles, 15; typhoid fever, 213; dysentery, 178.

The deaths from diphtheria were, in the first quarter, 36; in the second, 57; the third, 75, and the fourth, 139. The heaviest mortality was between two and five years of age.

A new ordinance for public vaccination had been in force during the last six months of the year, in which period 3032 children were reported as having been successfully vaccinated.

It is gratifying to find that in Philadelphia, as in Massachusetts and New Hampshire, the importance of the subject is receiving renewed attention. Dr. Jewell says, "hundreds of these children would otherwise have met with an untimely death, especially in the ward where small pox was most extensive, where 558 were vaccinated. Nor is it presumptuous to say that, to the neglect of the proper administration of this prophylactic, both on the part of the public authorities for a number of years, and of those parents who refuse to have their children vaccinated, must be attributed the amount of small pox in our city at this time."

DIPHTHERIA.—The *Medical News* for June has a very good lecture on diphtheria, by Dr. Wm. Jenner, of University College, London, from which we make several extracts:

In speaking of prognosis, he makes the remark which cannot be too often repeated, that "no case of diphtheria is unattended by danger. However mild the case may seem at the commencement, death may end it." Danger, first, the risk of the extension of the disease to the larynx, or later, from exhaustion and loss of nervous energy. He considers the albuminous urine indicative rather of an abnormal state of the blood than of disease of the kidney—having never found after death more than congestion of the kidney.

Here is a true observation: "As in all the other specific diseases, the influence of family constitution in favoring the occurrence of the disease, and in disposing to a fatal termination, is very remarkable. You attend a case of typhoid fever—the patient dies; other members of the family sicken—your anxiety for them should be far greater, because one of the family has already succumbed. For we often meet with families who have lost several members from typhoid fever, or from scarlet fever, from whooping cough or from measles, and that not only during the same epidemic, and in the same locality, but at long intervals, and at far-off places. There seems to exist in some families, though to appearance healthy, an inability to resist the injurious influences of certain specific poisons."

His general remarks on the principles of treatment are these: "We have no specific remedy for diphtheria. It is to be treated on the same general principles as the other acute specific diseases. We have no specific remedy for any of them. We save by medical aid many lives that would be lost by scarlet fever, from typhus fever, from measles, &c. We save such lives, however, only by from time to time averting special modes of death. The specific disease is not cut short—it is not cured by our remedies; it runs its course, do what we will to prevent it.

"To avert death in any given acute specific disease, we must know and bear in mind how it kills. Thus scarlet fever kills, first by the severity of the general affection; secondly, by the local throat disease and its consequences; thirdly, by the kidney affection and its consequences; fourthly, by accidental complications, as pericarditis, pleurisy, &c. * * * * In the present epidemic of diphtheria, I have seen patients die from the general disease—from the local throat disease and its consequences—from derangement of the nervous system."

Dr. Jenner objects to the operation of tearing off the false membrane, in which he agrees with Bretonneau, who says it aggravates the inflammation. He advises tracheotomy when the larynx is involved, on the ground of giving the patient the benefit of even the smallest chance of recovery; and prefers to have the opening made high up, as near the larynx as possible, in order to lessen one of the risks which attend tracheotomy in diphtheria—that of inflammation extending downward so as to produce supuration in the anterior mediastinum, which has sometimes resulted from the operation. Contrary to the usual course, he operates in the inflamed portion in preference to the healthy, to avoid establishing a new centre of inflammation; and in some cases that he quotes the operation has not been found to aggravate the inflammation.

Dr. Jenner prefers hydrochloric acid diluted with an equal amount of water, to nitrate of silver, as a topical application—recommends the application of one or the other at the first appear-

ance of the exudation, and afterwards to the fetid surface when putrefaction of the membrane has begun, as an antiseptic, to prevent the blood-poisoning, which he supposes to result from the absorption of the decomposed membrane. He says that "all we are to expect from the topical employment of active agents, such as nitrate of silver, is the arrest of the exudative process before it has extended to the larynx, and the prevention of the absorption of fetid matters." He has seen injurious effects follow the very frequent use of strong active remedies, say, two or three daily applications. On this point he adds the following as a footnote, with which we will close our extracts on this subject:

"Trousseau thinks that the general disease is curable, or, at least, that it is capable of being arrested by remedies applied to the throat. 'There is, however,' says Trousseau, 'an essential difference between diphtheria and small-pox, measles and syphilis, viz., that greater account is to be taken of the local affection in diphtheria than in those diseases. If in small-pox, for example, we do not occupy ourselves with the pustules in regard to treatment, it is not so in diphtheria. We may compare, indeed, what happens here with what happens in malignant pustule, where, in attacking directly the local affection, we check the progress of the general disease of which that affection was a first manifestation. So in diphtheria, by interposing energetically to combat the first manifestation, we may sometimes arrest the progress, prevent the ulterior manifestation.'"

CAOUTCHOUC A REMEDY FOR PHTHISIS.—Another hydro-carbon in the field! In Germany, experiments have been made with caoutchouc in the treatment of tubercular phthisis, resulting in the usual degree of enthusiasm on this subject. We have not seen the original article relating to it, but copy the following from the *Chicago Medical Examiner*:

Pure Caoutchouc, dissolved in essential oil of turpentine and made into an electuary with syrup of elder and a few drops of essential oil of bitter almonds, is highly recommended by Prof. Hannon in phthisis in doses of four teaspoonsful of the electuary per diem, each teaspoonful containing about fifteen grains of the terebinthinated caoutchouc. Two spoonsful are given in the forenoon, and two in the afternoon, with an interval of two hours between each. "The dose may be gradually increased, as the stomach can bear, and the patient gets accustomed to the taste and smell of the turpentine to a drachm, or even a drachm and a half, of the terebinthinated caoutchouc. This administration must be continued daily, till the symptoms of pulmonary phthisis disappear; and I do not abandon it even then entirely, but simply decrease the dose."

Caoutchouc administered in the solid state is inert; it is not digested; it traverses the intestinal canal without alteration;

but after "disaggregation," by means of the turpentine, it is easily digested, and seems to favor hematosiis considerably. Chemically, no *respiratory food* can be richer in carbon and hydrogen than pure caoutchouc, which consists of only these elements.

In phthisical patients, "under the influence of terebinthinated caoutchouc, expectoration diminishes rapidly; oppression ceases; night-sweats disappear; diarrhœa and fever stop; gradually strength reappears, and emaciation gives way to *embonpoint*. The cough is one of the first symptoms, too, which disappears.

"No other appropriate treatment need be excluded, while giving the caoutchouc, but it is indispensable to give the latter through the whole continuance of treatment. That the cure of phthisis is not beyond the power of nature, very numerous examples prove; and that the terebinthinated caoutchouc, combined with other remedies, will assist in bringing about such a result, many observations lead me to believe."

Dr. Hannon refers to about a dozen cases.

DESCRIPTION OF A CHAIR FOR INVALIDS.—Under the title of "Obscure Trunk Pains," Dr. James Jago, of Cornwall, has an instructive article in the *British and Foreign Medico-Chirurgical Review* for April, in which he considers the causes of that great variety of obscure pains in the thorax, back, hypochondria, etc., which we so often meet with. And finding faulty and constrained position connected with cases of this nature, he describes the shape of a chair which he considers peculiarly fitted for the use of sufferers with the symptoms referred to. The principal advantages in the chair are the nicely-fitting shape and an arrangement for a support of the vertebral column without pressing the shoulders forward or interfering with their freedom of motion, or with the movements of respiration. Our readers will thank us for copying the description.

"I will give a device for what I have concluded to be the best form of a chair. I will do so in dimensions to fit the use of a man of middling size. The chair shall be of wood, for if it be easy in bare wood it cannot fail to be so when cushioned.

"Let the seat be 18 inches from the floor and of the shape of a semi-circle of a diameter of 21 inches, whose straight edge is the front of the seat, and let it, in a style which is common, be scooped toward the back to fit the nates. Again, in the usual style of elbow chairs, let there be a horizontal semi-circular bar for the elbows to rest upon, 11 inches above the seat and of its diameter, and let this elbow-bar be supported on either hand laterally by four or five upright bars with equal intervals.

"In the middle of the back let the support for the elbow-arch be a flat plank of 5 1-2 inches breadth, or rather, let two short elbow-bars be let into such a plank rising from the middle of the posterior border of the seat to the height of 22 inches, and let this

plank be curved to the lateral contour of the loins, as may be seen in the cushions of railway carriages. Or, in definite measurements, let the plank, at vertical heights of 2, 5, 10, 15, 22 inches, be gradually inclined backward to the horizontal extent of 1-4, 3-4, 2 1-2, 3 1-4, 4 inches respectively. Beginning at the top of the plank let a longitudinal groove be cut a foot down the anterior face of the plank, of 1 inch wide and 3-4 inch deep; let its edges be beveled away, as also other sharp edges of the plank. Below the elbow arch the plank may be hollowed in the horizontal direction to coincide in curvature with the seat."

PUERPERAL PERITONITIS TREATED SUCCESSFULLY WITH OPIUM IN EXCESSIVE DOSES.—The symptoms began on the third day after delivery. She was narcotized, and kept so without intermission for four days, during which time she lay quiet, her skin moist and itching, eyes slightly suffused, pupils contracted to a point, respiration ten per minute and sighing, complaining of no pain, but easily roused. On the third day, she vomited several times, but the medicine was repeated oftener, and it soon subsided. The pulse, which was 140 at the beginning, commenced falling on the fifth day, and the medicine was diminished. On the sixth day, the pulse was 85, and from that time she took four grains each of sulphate of quinia and opium, per day, for several days, when her appetite returned and both were omitted. The amount of opium given was thirty-four grains in the first day, and after that from twenty to twenty-five grains per day; the quantity being regulated by the condition of the respiration, which was kept at about ten per minute. (*American Medical Times.*)

REVIEWS.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK, FOR 1861. Albany: 1861.

The volume of the Transactions of the Medical Society of the State of New York for 1861, contains several interesting and valuable papers, beside some that are hardly worthy of publication in the Transactions of so dignified and learned a society. We gave in a former number a general report of the annual meeting, with some account of the principal papers presented. After the opportunity, therefore, afforded us by their publication, of a careful examination of the Transactions, we shall here refer to a few of the most important communications.

A paper on the "*Treatment of fractures of long bones by simple extension*," was read by Dr John Swinburne, of Albany, and gave rise, we recollect, to much discussion, and some opposition in the society. The paper is truly valuable, as embodying the expression of principles which the author sustains by a very considerable number of cases, and hence is especially worthy of an attentive perusal. His views are set forth in the following words: "All that nature requires for perfect union of bone, is rest and a moderate degree of excited action, while all pressure by splints, bandages, etc., only impedes the process of reparation; and this pressure, in my opinion, is a prolific source of non-union." Rest is required for bony union, and perfect apposition to prevent deformity. Extension will produce this perfect apposition. "Take, for instance, a fractured thigh; extension on the extremity by a strong man will stretch the muscles to their normal length only—which fact can be shown by the most careful measurement—thus proving that the danger of too much extension is only imaginary. With the muscles drawn out to their natural state, what becomes of the bone? Where can it go, if not to its normal position, with the fractured ends in contact?"

These queries are answered by the author, in the results of experimental dissections which he describes, and by the reports of a number of cases of fractures of the upper and lower extremity in his own practice and that of several other gentlemen whose letters he publishes.

He contends that bandages and splints "constrict the limb, producing more or less mischief—1st, by the extra warmth of the parts; 2d, obstruction to circulation; 3d, difficulty of examining carefully the position of the bones; 4th, the trouble, pain, and dis-

turbance of the bones in re-dressings." He says, "I have now treated, without any bandage whatever, forty fractures of the thigh, in every portion of its shaft, simple, compound, comminuted, and intra-capsular, and with better results than would be obtained by splints and bandages. I have treated over one hundred fractures of the long bones, with no bandaging, and only dressing enough to perpetuate the extension, which is much better than trying to force the bones to maintain their position by lateral pressure with bandages, compresses and splints."

A pretty careful reading of the paper has given us a favorable opinion of Dr. Swinburne's method. It seems to be attended with no objection, and often to have a decided advantage over the use of splints. In fractures of the thigh, it appears to be a greater improvement over the ordinary methods than in any other case. There is no fracture in the treatment of which more ingenuity has been used by surgeons, to provide for the comfort of the patient during his close confinement of many weeks, or to devise some way in which the weariness might be relieved by occasional change of posture, than fracture of the thigh. Nothing hitherto has at all answered these desiderata, except in some degree the fracture-bed, (double-inclined plane.) But the method of simple extension and counter-extension before us, allows a remarkable degree of freedom. The counter-extension is made by a well-padded perineal belt, which passes up under the arm, and is attached to the head-board of the bedstead. Extension is made by means of adhesive straps, secured in a succession of spirals to the leg, embracing a large surface of it, and fastened by a strong cord to the foot of the bedstead. This is the whole. "After a few days the patient can sit up in bed, or lift his hips for the calls of nature, with impunity. He can roll from side to side, or even sit up, and thereby relieve the tedium of confinement. * * *

"The fact to be dwelt upon is, that little extension is necessary during the first stage of treatment. In order to prevent perineal excoriations, and accustom the patient to the necessary pressure when union is taking place, little more is essential at first, than what is required to overcome spasmodic muscular contractions, and displacement of the fractured ends. When the process of reparation has thoroughly begun, even after the provisional callus has been thrown out, or, at all events, has begun to form, say a period of fifteen days, there is time enough to use extension for the purpose of acquiring the necessary length of the limb."

Every simplification of surgical treatment and appliances is to be hailed as true advancement in the art, and no ingeniously-contrived instrument for the performance of a rare operation can bear any comparison in value to a mode of dressing a simple fracture of the femur which is available to every practitioner. Dr. Swinburne justly says that practitioners who see little surgery, yet are liable now and then to have a fracture on their hands, cannot al-

ways be supplied with a set of splints, and it will be an advantage to them, as well as to their patients, to know that fractures are better treated without them. We hope the method will be subjected to a general trial.

A Report on Medical Topography and Systematic Drainage is another paper of unsurpassed importance in this volume of Transactions. It is the first report of a committee, consisting of Elisha Harris of New York City, John G. Orton of Binghamton, Sanford B. Hunt of Buffalo, George W. Bradford of Homer, and William P. Seymour of Troy, appointed last year to consider the question of systematic drainage of the state as a hygienic measure.

As a first step in their inquiry, the committee addressed a circular to one thousand of the physicians of the state, proposing a series of questions, as to the existence of endemic and epidemic diseases in each locality, and their apparent or supposed dependence on any local and removable causes, the evidence that the removal of such supposed causes had resulted in the disappearance or mitigation of the diseases, and any evidence of any marked alteration in the type or character of particular diseases, with the attributed cause of the change.

It does not appear how general a response the circular met with. The committee offer their present report as only the first instalment of a great (and, we must all perceive, immensely valuable) labor, which they were able only to begin, in the fraction of a year during which they had the matter in hand.

The report is occupied with a general statement of the topography and hydrography of the state, with reference to the natural and the artificial drainage of its several districts; with a brief account of the swamps and moist lands, and the practicability of their drainage. The history of epidemics and endemics is not arrived at in this report.

With very few exceptions, it is stated that all the marshy districts are so situated as to be susceptible of effectual drainage. The necessity of legislative action for systematic drainage is indicated by the following: "It may have been remarked that the the great system of internal improvement by canals and railroads has, in many instances, effected very beneficial results in promoting the drainage of particular localities, while in some places upon the line of these grand thoroughfares the natural drainage has been needlessly interrupted and artificial relief prevented. This needless and unfortunate result has also been produced along certain sections of the Croton Aqueduct, in its course through Westchester county." These facts received the attention of the society, as long ago as 1852, when a committee was appointed under the following resolution, to address the legislature: "*Whereas*, The construction of canals and railroads in various parts of this state has been followed by bilious fever, dysentery, and other dis-

eases usually termed malarious ; and *whereas*, in the opinion of this society, much of this evil has resulted from *unnecessary obstructions of natural watercourses*, and the neglect to make culverts in all places where they are required ; *Resolved*, that the attention of the legislature be called to the premises, and that it be solicited to take such action as its wisdom may dictate."

Drs. John Stearns, (the mover,) McNaughton, and T. Romeyn Beck were the committee. We should like to know whether the legislature ever took any steps in the case. Apparently not.

The report goes on to consider the necessity for systematic drainage, such as was previously shown to be practicable—all of which we need not dwell upon here. The committee advise a standing committee upon medical topography, climatology, and hygiene, to collect facts upon those subjects, and make an annual report to the society, also to present a memorial from the society to the legislature, upon the necessity of systematic action for the health of the state, looking towards the eventual institution of an "ADVISORY BOARD OF PUBLIC SALUBRITY (why not HEALTH?) for the State."

Is it not marvelous that the community always need the most urgent, repeated, and long-continued efforts on the part of the medical profession to be induced to initiate measures for their own health and safety? There is not a single attempt to improve the hygienic condition of a town or a state that has ever been made by medical men or philanthropists, which has not met with serious opposition or neglect. The very fact of the evident unselfishness of our course of action often subjects us to a suspicion of secret motives of self-interest, which is quite sufficient to defeat the benevolent object.

The State of New York is populous enough to undertake the thorough management of general hygiene, under the advice of a Board of Public Health. It cannot, on any consideration, afford to defer the adoption of such necessary measures, which, besides their pressing importance, will with every year become more difficult and expensive. In large cities, for instance, systematic drainage can hardly be adopted, except by degrees, on account of immense cost, which would have been inconsiderable if it had been introduced at the commencement of the settlement or at an early period. Consider the condition of New York City at the present time: "It appears, from Lieut. Viele's remarks, (appended to the report,) that it is an admitted fact that the proper drainage of Manhattan Island, the most important centre of American commerce and population, has been utterly neglected: and what is worse, that even the admirable natural drainage of the island has been completely obstructed by the universal filling and levelling of the natural watercourses, so that instead of running streams carrying off the products of the springs and the deeper natural drainage, the densely inhabited city now has a system of saturated

soakage and exhalation. The sewers of the city are carried upon a level of drainage much more elevated than the lines of the original or natural hydrographical axes." It must be remembered that "sewerage is not necessarily, or even probably, a system of drainage; it is oftener a system of *soakage*."

The efforts of a State Medical Society can never be better employed than in forwarding such investigations as the one which is begun in this Report.

Of the remaining articles included in the Transactions for 1861, we have no space to speak particularly. There are some brief reports on interesting matters, and a collection of miscellaneous cases reported by numerous members. We have not the pleasure of seeing there one of Dr. Brinsmade's careful and useful tables, with which he has several times enriched the Transactions, and which we consider, for their immediate use and their example, of exceeding value. And at the same time these volumes are especially the place for articles of a statistical character.

A TREATISE ON THE PRACTICE OF MEDICINE. By EDWIN R. MAXSON, M. D.,
Formerly Lecturer on the Institutes and Practice of Medicine in the Geneva
Medical College. Philadelphia. LINDSAY & BLAKISTON. 1861. 8vo.

We have ventured far enough into this volume of six hundred and ninety-two dull and unprofitable pages, to satisfy ourselves that it is our duty to warn the unwary student not to spend his dollars in adding it to his library.

One need not be excessively modest to be lost in wonder at the audacity which would lead a man to enter the field with Watson, Wood & Bennett, with so inadequate a force as is here presented. Verily, "where ignorance is bliss, 'tis folly to be wise."

The book cannot be reviewed, and we can only regret that Messrs. Lindsay & Blakiston should have deviated so much from their usually correct judgment in the selection of medical publications.

EDITORIAL.

In former numbers, we have advocated the passage of vaccination-laws in other States similar to those which have been in successful operation in many towns in Massachusetts.

We are happy to say that in New Hampshire, the petition of the State Medical Society, to the Legislature, has this year been successful. At the late session of the Legislature, a committee of the Medical Society, presented a memorial asking that towns should be empowered to compel vaccination, which was ordered to be printed, and the law prayed for therein was finally passed.

The thorough practice of vaccination in New Hampshire now, therefore, depends upon the action of towns, which will be in accordance with the enlightenment of the inhabitants, and it is highly important that physicians everywhere should make a special effort to aid the cause by setting the facts before their patients and the communities in which they live. We subjoin the memorial in order to show to our readers the grounds which were taken with the Legislature.

MEMORIAL.

To the Honorable, the Senate and House of Representatives of the State of New Hampshire :

At the last Annual Meeting of the New Hampshire State Medical Society, a committee of five Fellows of the Society was appointed, consisting of the undersigned, with instructions to petition the Legislature, at its present session, for the passage of a law, making vaccination a condition of admission to any public school in the State, in every town that shall adopt the regulation in town meeting.

In pursuance of which instructions, the undersigned beg leave to present to your honorable body the general grounds for the necessity of such legislation, in the briefest manner consistently with the object in view.

The intention of the measure petitioned for, is obviously the extermination and prevention of small pox in this State, and, in coöperation with other legislative bodies, its extermination in other States.

The danger of small pox to our own communities is the first consideration.

Small pox is much more prevalent than it was thirty or forty years ago. It is a fact that our State is not free from it of late during any entire year. There are limited visitations of it, now in

one town, now in another, whither it has been transported from the large cities in which it is very generally present ; and we have occasionally a more serious epidemic. In the free communication between all parts of the country at this day, and the very great amount of travel everywhere, contagious diseases are transmitted with a hundred-fold greater facility and frequency than existed thirty years ago, when railroads were unknown, and the population was less numerous. The growth of many large manufacturing towns has produced so many nuclei of contagion, whence the disease is spread with ease to any part of the State.

The second consideration is, that by the yearly emigration of persons from New Hampshire, who have never been vaccinated, into towns and cities of other States which are protected by municipal regulations for vaccination, those protective laws are rendered futile, in a degree, by these constant arrivals from States which have no vaccination-laws, since they afford a continual supply of material for the disease ; and it results that small-pox is rarely absent from such cities. In evidence of the truth of this assertion, the petitioners ask the attention of your honorable body to the following condensed statement, from a memorial of the Boston Sanitary Association to the General Court of Massachusetts, in the present year, praying for more stringent laws for protection against small-pox than are at present in force. The abstract is as follows : In the years 1859 and 1860, small-pox (never entirely absent for many years past) was epidemic in Boston. The number of cases estimated, of small-pox and varioloid, during the continuance of the epidemic, exceeded five thousand. 803 persons died of it. 142 of these were born in Boston ; of this number, 117 were under five years of age, and only 25 above that age. Whilst of those born out of the city—in Ireland, Massachusetts, Maine, New Hampshire and Germany chiefly—156 were upwards of five years of age. The number of inhabitants of Boston born in the city includes probably half the whole population ; yet only 25 natives above five years of age died of small-pox, while 156 foreign to the city died from that cause.

The reason of the difference is obvious : the municipal laws of Boston require that every child shall be vaccinated who enters a public school ; thus none escape who grow up in the city and attend any public school there, while there is no law which can reach adult immigrants, from whatever quarter ; and hence the number of these who died in the recent epidemic in Boston exceeded that of the natives, six to one.

We are bound, by every consideration of self-interest and duty to our countrymen, to aid the members of other communities who are endeavoring to eradicate the disease, by taking all lawful and practicable measures to prevent the material for its extension from going from New Hampshire to other States, in the persons of individuals who have never received any protection by vaccination

or otherwise. And if any one should fail to see our duty to other States in this matter, your petitioners beg leave to remind your honorable body, that whatever aids in the continuance of small-pox in Boston or New York is a direct injury to us, by our very free intercourse with those cities.

Your petitioners would in this connection refer to several errors which sometimes exist in the popular view of small-pox and vaccination.

1. The dangers of small-pox as a disease are often underrated by those who know little of its fearful history. Two generations have now been protected by vaccination, and for more than half a century prior to the introduction of vaccination the disease was much modified in its severity by inoculation with small-pox itself. So that no living person has been a witness of the horrible ravages of the unmodified disease, which for ages had been one of the most terrible of pestilences, devastating towns, cities, and even nations. Nothing stands between us now and a return of the fearful experience of former ages, but the practice of vaccination.

2. Vaccination is not everywhere adopted with the eagerness with which it was adopted in the first quarter of this century, because a doubt has arisen of the sufficiency of its protective power. On this point, your petitioners would say, that the medical profession are generally agreed in the power of one vaccination to afford complete and life-long protection from small-pox to some; and in its ability to afford continual protection to nearly all, if repeated several times in the course of the first thirty-five years of life; and in the certainty of its very much modifying the severity and diminishing the fatal tendency of the disease, when it does not prevent an attack. Small-pox, in a community where none have been protected, is fatal in about one-third of the cases. In those previously vaccinated, it is very rarely fatal.

3. A prejudice sometimes exists against vaccination, from the fear of some immediate ill consequences from this operation. In regard to this prejudice, your petitioners would say that vaccination is the act of introducing a disease into the system which is generally very mild in its course and harmless in its consequences. Like other mild diseases, however, it is sometimes more serious, and may be followed by troublesome affections, especially diseases of the skin. These cannot be anticipated by the physician, and would probably have appeared in most cases spontaneously, had no vaccination been practised. In peculiar states of the system or of the atmosphere, or during the prevalence of serious epidemics of a different character, it has sometimes happened that vaccination has been followed by a fatal inflammation. Such cases are so extremely rare, however, that it is probable that many physicians of large experience have never seen one instance of any fatal result. As to any temporary inconvenience that may in some cases follow vaccination, it is unworthy of consideration in com-

parison with the very great danger of a loathsome, painful and frequently fatal disease, from which it gives protection.

Your petitioners have preferred to offer to the consideration of your honorable body this concise summary of the evidence upon the subject of vaccination, rather than to quote largely from the great amount of documentary evidence, which has been collected by the State of Massachusetts and other bodies. The statements made, however, have been drawn from such sources, and from our own long-continued investigations and experience.

We have only further to say, that there has been as yet no plan devised which so nearly secures universal vaccination as that now in operation in the principal towns and cities of Massachusetts,—similar to the law which is hereby prayed for for the State of New Hampshire.

KEROSOLENE.

This is a new anæsthetic, which has recently come into notice. It is said to be obtained as a product—hitherto thrown away as useless—in the manufacture of kerosene oil by the destructive distillation of coal, not coal-oil nor tar. The first intimation that it had anæsthetic properties were declared by the fact that a man sent in to clean out a cistern at the kerosene works, became totally insensible.

Kerosolene is tasteless, colorless, and of a faint chloroform odor, which, as it evaporates, changes to that of a coal-tar, and then disappears. It is volatile and highly inflammable.

Dr H. J. Bigelow says, (*Boston Medical Physical Journal*,) “I inhaled the new vapor, which Dr. Hodges, at my request, administered. Complete insensibility supervened, lasting several minutes, with some diminution of the volume of the pulse. Its effect was wholly agreeable, leaving neither headache nor nausea, nor bad taste.” In regard to a girl of 19, to whom he administered it, Dr. Bigelow says, “There was more cough than I had expected from the wholly unirritating odor of the vapor, more muscular vigor than usual in favorable anæsthesia, and more intermittence of the pulse.”

“In a second patient, to whom it was given preparatory to an operation upon the face, insensibility was equally complete. But this woman did not take it kindly, and its complete effect was attended by so feeble and intermittent a pulse, as to lead me to desist until she had recovered. A second attempt produced, with anæsthesia, the feeble and intermittent pulse, and I again desisted. Upon her recovery, I gave her common ether vapor, which she afterwards said was less agreeable, but which was followed by complete insensibility, the pulse beating steadily and full, at 76.

“Though this patient, perhaps, succumbed more readily to a third anæsthesia, there seemed to be in the first two trials a cer-

tain degree of purple color and asphyxia, with its attendant spasm, which I have elsewhere described as an occasional and disagreeable symptom of attempted anæsthesia. To guard against this asphyxia, which might possibly have resulted from the folded towel, upon which I habitually administered ether, I tried in the next case an open sponge. The subject required a considerable incision for a mammary abscess, and was a patient of Dr. H. G. Clark, with whose assent I tried the kerosolene. In spite of the open sponge, the symptoms of asphyxia again appeared, suggesting to Dr. Clark, before operating, their resemblance to those resulting from charcoal gas. The color was livid and the rigidity marked. In each of these cases, the quantity used was from one to two ounces."

Dr. Cutter, of Woburn, has also made a report to the Middlesex East District Medical Society, on the subject of Kerosolene, in which he says, "It must be presumed to be almost safe, as in all the trials of it upon man and the lower animals, only a mouse has been killed. Its price, odor, and instantaneousness of action are advantages over ether."

It is, as Dr. Cutter says, "a fit article for further experiment," but certainly not one to be used without extreme caution. Dr. Cutter's experiments upon himself and his friends, seem to satisfy him of its safety, but he appears not to have taken it to complete insensibility, as he walked about, and shrank at the prick of a pin, (although having no recollection of it afterwards.) Even in this moderate experiment, his friend reports of him that "the pulse and respiration were not much altered from the normal rate, the face was rather pale." The report is not exact or scientifically detailed, but the fact of some alteration of pulse and respiration, with pallor, is stated. There is nothing in the paper of Dr. Cutter to give us any assurance that the effects upon the nervous system witnessed by Dr. Bigelow, were accidental, and not the regular and constant results of his evidently very powerful anæsthetic. We say again, therefore, that experiments should be conducted with great caution, and that it should be used very extensively upon the lower animals, before it is attempted to bring it into common use as an anæsthetic. New remedies have a great fascination for many; nay, we may all confess to the temptation—but it is one to be resisted. It is especially necessary to be on our guard against the charm of a new anæsthetic, after the many grave results from the employment of chloroform. Ether has probably caused death, but so very rarely that it has been hard to find the evidence of it, and however inferior to chloroform or kerosolene in some respects, ought, under most circumstances, to satisfy us as an anæsthetic.

MEDICAL NEWS AND MISCELLANY.

BRIGADE SURGEONS FROM MASSACHUSETTS.—The following Massachusetts gentlemen have been appointed brigade surgeons by the United States government, viz.: Dr. G. H. Lyman, of the State Medical Commission; Dr. Luther V. Bell, Surgeon of the Massachusetts 11th; Dr. Peter Pineo, of the 9th; Dr. Henry Bryant, of the 20th; and Dr. O. Martin, of the 3d Battalion of Rifles. (*Boston Medical and Surgical Journal.*)

DRESSERS IN THE ARMY.—A new field for medical study is opened by the war, which will be made available to a large number of advanced students—as will be seen by the following advertisement, which we clip from one of the daily papers:

SURGEON GENERAL'S OFFICE, August 9, 1861.

The following act of Congress in relation to the Corps of Medical Cadets is published for the information of all concerned:

"SEC. 7. *And be it further enacted*, That there be added to the Medical Staff of the Army a Corps of Medical Cadets, whose duty it shall be to act as dressers in the general hospitals and as ambulance attendants in the field, under the direction and control of the medical officers alone. They shall have the same rank and pay as the military cadets at West Point. Their numbers shall be regulated by the exigencies of the service, at no time to exceed fifty. It shall be composed of young men of liberal education, students of medicine, between the ages of eighteen and twenty-three, who have been reading medicine for two years, and who have attended at least one course of lectures in a medical college. They shall enlist for one year, and be subject to the rules and articles of war. On the fifteenth day of the last month of their service, the near approach of their discharge shall be reported to the Surgeon-General, in order, if desired, that they may be relieved by another detail of applicants."

Application must be made to the Surgeon-General for admission into the corps, in conformity with the above act, stating the date and place of birth, place of residence, period of medical studies, and enclosing the certificate of the dean of the college, (or, when not obtainable, other satisfactory evidence of the fact,) that the applicant has attended one full course in a medical college.

These applications must also be accompanied with testimonials of the good moral character and sound physical condition of the candidate.

When an application is favorably considered, the candidate will receive a letter authorizing him to appear before an Army Board of Medical Examiners, who will make a special report in each case. From among those approved by the board, the Surgeon-General will select such a number as the service may require.

As the services of this class of medical and surgical assistants are at once required, applications to be successful should be promptly made to the Surgeon-General, who will direct the candidate to appear before one of the Army Medical Boards now in session in Washington and the city of New York.

R. C. Wood, Acting Surgeon General.

ASSISTANT SURGEONS IN THE NAVY.—Of thirty-seven gentlemen who, having recently passed a successful examination before the Naval Medical Board at

Brooklyn, have been commissioned assistant surgeons, are three of the graduates of the Berkshire Medical College, of 1860 and 1861. They are, Wm. C. Lyman, Charles O. Carpenter, and J. H. Macomber—all of whom left a good reputation behind them when they graduated.

STRATEGICAL.—Among other interesting incidents narrated by a member of the returned Eighth Regiment, he says that when the camp at the Relay House was visited by the Sanitary Committee of the State, the boys were each provided, when supper came round, (for the first and the last time during the campaign,) with butter for their bread, milk for their tea, and quite a huge slice of gingerbread. No doubt good Dr. Howe and his companions, as they looked upon this bountiful repast, inwardly ejaculated—"Well, if thus the soldiers *sup*, their *dinners* must be absolutely Parkerian!" (*Boston Transcript*.)

NOURISHMENT OF THE WOUNDED IN BATTLE.—As soon as a battle commences beef-tea should be prepared in large quantities, by cutting up the beef of the horses which have been killed, in lieu of ox-beef, if that is absent or scarce, in a barrel, and adding hydrochloric acid and water. The wounded, in a painful journey to the rear, and awaiting operation, will be wonderfully sustained and refreshed by this fluid nutriment, and the horrible thirst of the wounded, which is but acute hunger, will be effectually and most advantageously appeased. The mortality, after field operations of even the gravest character, will be diminished in a remarkable manner if sufficient support and nutrition are supplied between the two points of injury and operation, and the reception into general hospitals. If the veins are supplied with healthy nutrition, they will have less temptation to absorb pus. (*American Medical Times*.)

EXSECTION OF HEAD OF THE FEMUR PREFERABLE TO AMPUTATION.—Left to themselves, all injuries of the femur close to the hip-joint must end fatally. (*Stromeyer*.)

Guthrie, Ballingall, Macleod, and other surgeons recommend excision of the head of the femur, in preference to amputation at the hip-joint, in gun-shot wounds, as well as in morbus coxarius. The results are so much more favorable, as to make it probable that reaction will supersede amputation at this joint. (*American Journal of the Medical Sciences*.)

DUPUYTREN ON SPURIOUS PREGNANCY.—Prof. Simpson, in lecturing on spurious pregnancy, tells the following good story of Dupuytren. "Such cases are, happily, extremely rare; but you do meet with them occasionally, and not in patients within the walls of a lunatic asylum only. It is told that a lady once came to Dupuytren, to ask what was to be done in her case, as she had now been in a family way for fourteen years—and the great Parisian surgeon gave it as his opinion, that as the boy must be tolerably well grown by that time, the best thing the lady could do was to swallow a tutor immediately, that his education might not be neglected." (*Medical News and Library*.)

INVERTED UTERUS REDUCED.—Dr. Woodson states a case of complete inver-

tion of the womb, which he reduced in a manner that deserves to be remembered. A woman, being about four months pregnant, whilst washing was seized with labor pains, and feeling the fœtus protruding, she pulled it from her, bringing the uterus out, and completely inverting it. Five days having elapsed, Dr. W. saw her; he found the fundus presenting externally, about the size of a large pear, a portion of placenta almost decomposed, still adhering. Attempts to replace by hand failed. Next day he had prepared an instrument similar to Simpson's sound, provided with a ball at the end, of the size of a half-ounce bullet. This ball was placed against the fundus, and under steady pressure the womb was replaced with a jerk. The loss of blood was not great, although it had continued from the time the accident had occurred. The patient recovered well. (*American Journal of the Medical Sciences.*)

CONTINUANCE OF THE HEART'S ACTION AFTER RESPIRATION HAS CEASED.—A correspondent of the *Lancet* relates the case of a man who died with general emphysema in an hour after being crushed between a railway carriage and an arch-way through which it was passing; in whom the heart pulsed with force after respiration had entirely ceased, so as to be felt distinctly and heard still more so, and continued to beat for fifteen or twenty minutes.

SYLVESTER METHOD OF RESTORING SUSPENDED ANIMATION.—This method, which has supplanted with many the Marshall Hall method, is thus described:

"Dr. Sylvester's method is to lay the patient on his back, and having pulled the tongue forward, to draw the arms slowly up over the head, by which means the ribs are elevated by the pectoral muscles, and inspiration is produced; the arms are then to be brought down to the side of the chest, which they are to compress in a slight degree. These movements are to be repeated as slowly as in the Marshall Hall method, and it is said that they give a more complete change of air to the lungs."

CONVULSIONS PRODUCED BY INHALATION OF KEROSOLENE.—Prof. Andrews, of Lind University, communicates to the *Chicago Medical Examiner* a report of his first and only experiment with kerosolene, in which he says, "At length the anæsthesia began to come on, when the countenance appeared flushed, and the eye a little unnaturally open and staring. In a short time the patient made an effort to rise in a sitting posture, and was immediately attacked with moderate convulsions. The administration was discontinued until these effects subsided, and then carefully resumed, but the result was another attack of the convulsions. Again suspending the inhalation until the muscular excitement ceased, a third effort was made to proceed, but this was also checked by a third attack of the spasms." Ether with a little chloroform was substituted, and the convulsions did not return.

A NEW MEDICAL JOURNAL.—He must be a bold man who goes to sea in such a stormy time as the already established periodical literature finds itself afloat in. But we respect him all the more for his courage. And since Dr. Julius F. Miner has come before the profession as the editor of a monthly under the name of the "*Buffalo Medical and Surgical Journal and Reporter*," we wish

him all the success which such an enterprise deserves. There is a wide extent of country in western New York, of which it should be the organ; and it will have the recommendation in the eyes of all the subscribers of the late Buffalo Medical Journal of bringing that crispy, sound and vigorous monthly to mind, by its external resemblance. We can express for it no better wish than that it may be equal to it in the manner in which it is conducted—which time will show. The Journal contains thirty-two pages, and is published on the first day of every month, at Buffalo, N. Y., at \$1.00 a year, in advance. No 1 appeared in August.

BOOKS AND PAMPHLETS RECEIVED.—Transactions of the Medical Society of the State of New York, 1861. (From the Secretary.) Treatment of Fractures of Long Bones, by Simple Extension. By John Swinburne, M. D. (From the author.) Communications of the Rhode Island Medical Society, for the year 1861. Fiske Fund Prize Essay on the Morbid Effects of the Retention in the Blood of the Elements of the Urinary Secretion. By William Wallace Morland, M. D., 1862. An Address in Relation to the Epizootic Disease Among Swine, improperly called "Hog Cholera." By Edwin M. Snow, M. D. and G. L. Collins, M. D. Read before the R. I. Medical Society, June 19, 1861. (From Dr. Collins.) Transactions of the State Medical Society, of Indiana, 12th Annual Session. Transactions of the State Medical Society of Illinois.

EXCHANGES RECEIVED. — North American Medico-Chirurgical Review. American Journal of the Medical Sciences. Medical and Surgical Reporter. American Medical Times. American Medical Monthly. Boston Medical and Surgical Journal. American Journal of Insanity. Chicago Medical Examiner. Cincinnati Lancet and Observer. Journal of Rational Medicine. San Francisco Medical Press. Buffalo Medical and Surgical Journal and Reporter. Chicago Medical Journal for June and July.

THE
BERKSHIRE MEDICAL JOURNAL,

EDITED BY

WM. HENRY THAYER, M. D., AND R. CRESSON STILES, M. D.

"Ore trahit quodcunque potest atque addit acervo."

VOL. I.

OCTOBER, 1861.

No. 10.

PROCEEDINGS OF SOCIETIES.

MASSACHUSETTS.

BERKSHIRE DISTRICT MEDICAL SOCIETY.

The Society met in the Chemical Hall of the Medical College at Pittsfield on Wednesday, August 28th. *Dr. J. L. Miller* was chosen Chairman.

Dr. Stiles read a paper on the "Value of the Microscope in Medicine," since published in the September number of this journal.

Dr. Duncan was appointed to present a written communication at the next meeting.

Dr. H. H. Childs gave the history of a case of injury to the brain by a blow on the head in a man 45 years old, who, after two months of constant headache with periodical exacerbations, suddenly became drowsy and hemiplegic, and continued in a state of partial coma for a month. Pupils natural, pulse slow, constipation obstinate. He was treated with mercurials, with the view of promoting the absorption of effused lymph, and subduing inflammation; by counter irritation to the back of the neck—was nourished by injections of beef-tea—constipation was obviated by oil of turpentine when other cathartics had failed. He is now rapidly recovering.

Dr. Duncan said he cordially agreed with the letter and spirit of the paper just read by Professor Stiles, on the use and import-

tance of the microscope in the study and practice of medicine.

There were unquestionably many diseases the real nature of which could only be made out during the life of the patient by the aid of that instrument. When a student of medicine at this Institution, he became so fully impressed with the importance of this auxillary to the *ars medendi* that he resolved, on graduating, to immediately add one to his list of agencies, wherewith the hydra of disease was to be attacked and overcome. Providentially, as he thought, a travelling optician presented himself about this time, who happened to have "just precisely the instrument needed by a country physician!" "It was the last one, and finding the sale of them slow, he was willing to sacrifice the whole profit rather than burden himself with it in returning to the city, which undoubtedly he had just left."

The instrument had an imposing array of brass work, a set of instruments for microscopic dissections, a neat mahogany case, and three combination objectives, which gave beautiful prismatic coloring to the objects examined. This latter quality was better appreciated, and valued less, on a more thorough knowledge of the instrument. In short, a poor and inefficient microscope was purchased at an exorbitant price. He would say to his younger friends, study well the anatomy of the microscope before purchasing. A familiarity with its details will save both money and disappointment.

The value of a microscope is not in its machine work, but in the objectives, and here cheapness without excellence is false economy.

To enumerate the qualities of a good objective is unnecessary, for without a practical knowledge as to what they are no one could fully understand them.

After all, the success of our treatment must depend upon the proper exhibition of remedies, and to this end a thorough knowledge of the *materia medica* is of greater importance to the physician than skill in the use of the microscope.

The departments of medicine are so numerous that no one can become equally proficient in all, and that which best suits the taste and habits of the practitioner is apt to be pursued to the detriment of others.

It has been said that the "*forte* of the French physician is skill in the diagnosis and prognosis of disease, and that when these are satisfactorily made out, real interest in the case ceases. So completely has the study of pathology eliminated that of *materia medica* that he never asks himself what can be done to alleviate or cure the patient," but "what are the pathological changes an autopsy will reveal: if, however, the patient survives an unfavorable prognosis, instead of rejoicing at his recovery, he feels aggrieved that he did not die when his time had come," according to the predictions of science. * * * * * There is another

subject to which the attention of the Society is invited for a few moments. There has been an impression quite prevalent among physicians that hydrargyrum cum cretâ as sold for the most part by our druggists, is considerably below the standard of our pharmacopœia; that through errors of manipulation, adulteration, or deterioration by age, it often proves an irritant instead of the "mildest known mercurial."

These complaints have found their way into the medical journals, and a distrust of the preparation has been gaining ground among the profession until many physicians have quite discarded it from their practice.

Dr. D. had with him samples which he wished to present to the members of the Society for trial. It had been prepared with the greatest care, to determine, if possible, whether an article of absolute purity would be still obnoxious to the charge of being an "irritant."

Dr. Lawrence stated that he had recently found hydrargyrum cum cretâ to act so unkindly that he had almost discarded it. He had found it to cause vomiting and purging.

Dr. Bostwick lent his testimony to the irritant effect of hydrargyrum cum cretâ. He thought that the season was not alone accountable.

Dr. Smith thought it necessary to take the age of the preparation into consideration, and that the most excellent preparations would acquire irritant properties in time.

Dr. Lawrence had in dispensing hydrargyrum cum cretâ frequently seen globules roll out on the paper—a proof that a separation often takes place, and that in the same dose more of the metal is given than at others.

Dr. L. thought the varieties in coloration indicated an important difference in composition.

Dr. Duncan stated that many physicians had found the hydrargyrum cum cretâ so unreliable that they substituted for it the pulverized blue mass; that he had questioned druggists on the subject, and found that the sale of hydrargyrum cum cretâ had suffered considerable diminution within a recent period: that the vibration produced by the rolling of vehicles was sufficient to cause a separation of the metal and the chalk.

Dr. Seely obtained samples from all present who had found it irritant. He inquired the age of the several preparations, and promised to report the results of analysis at a future meeting.

The tendency to diarrhœa and vomiting during the present season, the influence of various medicinal agents often combined with they hydrargyrum cum cretâ, in producing emesis, were discussed by Messrs. Lawrence, Bostwick, Smith and Meacham.

Dr. Miller reported the obliteration of the congenital recto-vaginal fistula, to which he had called the attention of the Society at the June meeting. No other treatment had been employed

than the introduction of pledgets of lint in the vagina, and of a leaden bougie into the rectum.

Dr. Ford stated that he had recently examined the structure of an ossified dura mater, and found the ossific growth to contain the true bone corpuscles; that he had frequently examined similar productions in the same locality and found them to be true bone, and that he had found an ossific deposit in the spleen to be devoid of structure.

Dr. Shiles stated that he had seen the pleura ossified so as to form a strong plate of a foot in diameter with the structure of bone.

Dr. Bostwick reported the case of a child of nine months, in which the first symptom of disease was the swelling of the sublingual glands, caused apparently by a blade of rough grass which was found in its mouth. Six hours afterwards the sub-maxillary glands were involved, and became enormously enlarged. In twelve hours more the swelling was continuous, involving the parotids. Vomiting and purging of a dark offensive matter took place. The child died suddenly thirty-six hours after the first visit. There was no diphtheria, no eruption, no mercurials, and no medicine had been taken for two weeks.

Dr. Duncan reported the poisoning of cattle by the leaves of the *Prunus Serotina*. The cattle had been in the habit of eating the leaves by stretching their necks into an adjoining field, thus obtaining a scanty supply. The farmer had cut off a number of branches early in the morning and thrown them into the field, where they had lain for some time in the sun. Several cattle were killed on eating them. Dr. D. was at a loss to know whether it was the greater amount alone which caused the poisoning, or the action of the sun-light on the drying leaves had generated the poison in greater abundance.

Dr. Bostwick presented several specimens of large, continuous and tough expansions of false membrane of diphtheria

WEDNESDAY, September 24th.

The Society met in the Chemical Hall of the Medical College, the President, *Dr. C. T. Collins*, in the chair.

Dr. Duncan promised a report on the irritant properties of hydragryrum cum creta at the next meeting, and asked for time to complete his analyses. Dr. D. had treated Ecthyma by cauterization of each pustule with nitrate of silver with favorable results.

Dr. Salmon presented a specimen of cancer attached to the duodenum, with the following history of the case. The specimen was donated to the Museum of the Berkshire Medical College.

It was called April 10th, 1861, to S. R. aged 67, a previously healthy, hard working man, and found him complaining of lassitude and dull heavy pain in the right hypochondrium, tongue

coated, bowels torpid, stools clay-colored, skin jaundiced. Ordered blue-mass, followed by a cathartic, and a blister over the region of the liver.

April 11—No better; no movement of the bowels. Ordered Ole Ricini.

April 12—The oil had produced an evacuation without a trace of bile; pain in abdomen had been increased by the cathartic; skin deeper yellow.

April 15—He took to his bed; previous symptoms aggravated; typhoid symptoms developed.

From this time he failed slowly for six weeks; subsultus tendinum; hiccough; tongue covered with a thick white coat; aphthæ in the mouth; pulse frequent and feeble until June 4th, when he experienced a severe chill; a few hours after he complained of acute pain over the abdomen; I at once suspected peritoneal inflammation.

June 5—Abdomen tympanitic; vomiting; features pinched; death June 8th.

Autopsy—Body much emaciated; muscles flabby; skin deep yellow; liver enlarged, grayish externally, greenish internally, containing in its right lobe a small tumor; gall bladder much enlarged, elongated, perforated above; bile very dark and viscid, adhering to intestines and peritoneum; peritoneum inflamed with patches of lymph, few adhesions; attached to upper portion of duodenum was a tumor weighing about half a pound, lying directly below the gall bladder and obstructing the cystic duct. All the other viscera were nominal."

Dr. Brewster had met with a case of twin labor, in which the breech of both presented, and both were delivered safely.

Dr. Cady had met with a case of dorsal presentation, delivered by version.

Dr. Brewster had treated a case of diphtheria in a patient who had resided in the city of Troy until a short time before the attack. Inquired if diphtheria were prevailing in that city.

Dr. Bostwick, of Canaan, N. Y., replied that the disease was prevailing to the east of Troy; that he had noticed that a change of residence was an exciting cause of a speedier development of the disease, and often heralded its approach in the place the patient visited; that the idea of the contagious nature of the disease had thus had its rise. He did not think diphtheria contagious. Its progress was from west to east; it would reach the foot of the mountains this fall; it had a regular rate of progression. Rheumatic and erysipelatous diseases had been prevailing at Canaan during the summer. He thought these diseases allied with diphtheria; found a large proportion of his cases of diphtheria marked by an exanthem; every epidemic of diphtheria has a definite altitude; the present is following the valleys; knows it to be prevailing within a circuit of twenty miles in diameter.

Dr. Allen stated that the majority of his cases of diphtheria had been attended with a rash. *Dr. A.* gave the history of a case of what he had thought to be pleurisy with effusion, in which the heart was so completely displaced as to give its impulse beneath the right nipple. He had performed paracentesis, but had obtained no liquid. On post-mortem, found the left side of the chest filled with a sarcomatous mass resembling clotted blood, enormously distended. The same substance existed on the outside of the chest, beneath the skin, in front. Not a trace of the lung was visible.

Dr. Salmon has now two cases of diphtheria in which the larynx is affected. His cases are on high ground, on the hill tops near New Lebanon.

Dr. Laurence reported a case of dysentery in a lady 80 years old. The dysenteric discharges ceased, but the fœces began to escape by an artificial anus in the iliac fossa. Sixty years before she had strangulated hernia, and, for six months, the fœces had passed by an artificial anus, but they resumed their natural course, and the wound healed: She had excellent health until her last attack, and had borne a large family of children. The artificial anus had been reëstablished after sixty years of obliteration. *Dr. L.* stated that scarlet fever and typhoid fever had been the prevailing diseases in North Adams. He had treated thirty cases of the former. In most of them there was a tendency of the disease to the air passages. He had seen no diphtheria.

Dr. Holcombe raised the question of the treatment of severe gonorrheal ophthalmia, which was discussed by Messrs. *T. Childs, Duncan, Siles* and *Miller*. Excision of chemotic ring, cauterization by the solid stick of nitrate of silver, local blood-letting, internal use of tartar emetic and aconite, and the continuous application of cold, were the measures discussed.

Dr. H. H. Childs brought forward the principles on which heat and cold were to be applied to the treatment of inflammation.

Dr. Miller gave the history of a case of phagedenic chancre. He decried the use of mercurials in such cases.

Dr. Palmer very rarely meets with the bacterian chancre or secondary syphilis—the phagedenic chancre to be treated by rest, tonics, cold compresses, dilute solutions of nitrate of silver, and never with mercury.

Dr. Adams reported scarlet fever to be prevailing at South Adams.

Messrs. *T. Childs* and *Chap.* gave a detailed account of the honorable accident by which *Gov. Briggs* lost his life, with the treatment of the case. The bleeding had carried away portions of both the lower and upper jaw—the pericardium had been opened, the pericardium had been found to be the larger vessels had been torn, the bleeding from the wound was arrested by a sponge soaked in a solution of persulphate of iron: at least thirty

pieces of bone were removed ; for six days all the symptoms were favorable, but on the seventh the flabby pale granulations gave evidence of failing strength, which, in spite of tonics and stimuli, sank gradually till the eighth day, when he died.

Dr. Duncan recommended strongly the oxalate of cerium in the gastric diseases of children in grain doses.

Dr. Collins reported the case of a man, aged 25, in which, after cough and pain over the stomach for six weeks, a tumor made its appearance in the same place, and pus was freely discharged.

Dr. T. Childs reported the case of a female murdered by a bayonet wound in the abdomen. Until a few hours of her death she was comparatively free from pain, when, as the result of rising from bed, severe pain ensued, and she died in four hours afterwards, and twenty-eight hours after the infliction of the wound.

Dr. Cady reported that the autopsy revealed perforation of the small intestine in several places, abdomen filled with blood, little agglutination of the intestines or effusion of lymph.

A committee, consisting of Messrs. *Collins, Holcombe* and *Brewster*, was appointed to inquire into the financial condition of the *Berkshire Medical Journal*.

The Society was hospitably entertained by *Dr. T. Childs*.

ORIGINAL COMMUNICATIONS.

ART. XXX.—*A Singular Case of Sudden Death.* By A. N. ALLEN, M. D., of Pittsfield, Mass.

Miss E. B., aged 45, went to bed as well as usual on the evening of December 31st, 1860. The next morning at six o'clock she wished her niece a happy new year, and was apparently well, but in half an hour afterwards she was found insensible in her bed, and supposed to be dead ; was pronounced to be so by a homeopathic physician, who was immediately called. At 10 A. M. she was taken from the bed while still warm, attired in grave clothes, and left lying in a room, the windows of which were left open, while the thermometer was below the freezing point, where she lay until 10 A. M. on the 2d of January, at which time I was called. I found the body still warm ; the countenance like that of healthful sleep ; the skin felt remarkably warm and life-like ; the eye had the brightness of health ; the jugular veins were gorged with blood ; no rigor mortis existed ; an indistinct fluttering could be scarcely perceived on placing the ear over the heart ;

no pulse existed at the wrist, nor in the temporal arteries, and no respiration could be perceived. I immediately placed her in a warm bath, opened the right jugular vein, from which the blood flowed freely; drew a half pint, and found it difficult to arrest the flow completely. She was taken from the bath and wrapped in flannel; friction was applied to the skin and vessels of hot water to the extremities. Electricity and artificial respiration were employed, but our exertions could not arouse further signs of life.

Autopsy.—January 3d, at 2 P. M. Body still warm; rigor mortis slightly marked; odor of decomposition slight; the pneumo-gastric nerves were galvanized in extreme precaution, and the body opened. The brain was perhaps softer and yellower in tinge than normal, but no evident lesion existed. The longitudinal sinus was filled with fluid blood; the medulla oblongata was healthy; the larynx, bronchial tubes and tissue of the lungs were normal; the heart was healthy, except that the left ariculo-ventricular valve was thickened; the pericardium contained about an ounce of liquid; the liver, kidneys, stomach and intestines were healthy; a small fibrous tumor, about a half inch in diameter, existed in the posterior wall of the uterus; the ovaries were filled with small cysts. The most singular appearance was found in the spleen, in which the malpighian corpuscles had not disappeared, as is usual a short time after death, but were large and crowded, so as to give a whitish color to the section of the organ. The blood which had been drawn from the juglar vein the day before had not coagulated, but the corpuscles had subsided, leaving a layer of straw-colored serum above them.

ART. XXXI.—*Fracture of the base of the Cranium.* By. W. DEMING, JR., M. D., Lenox.

The following case seems to me to be worth reporting, and has an additional interest lent it by the fact of a similar one having occurred in the same vicinity, which was reported by Dr. T. Childs at the August meeting of the Berkshire Medical Society.

July 21st, 1861.—Mrs. C., aged 55, a healthy, though not robust woman, received a violent blow, occasioned by a "pulling" horse, from a heavy rail upon her head. She was taken up insensible and carried to the house of a neighbor. When I arrived, which was perhaps 10 minutes after the accident, her consciousness was just returning. There was no external injury, except a slight discoloration of the skin along the right temple. Blood was flowing from both ears, and also from her nose and mouth, to the amount of several ounces. Vomiting soon set in, and a considerable quantity of dark clotted blood, which I suppose to have been

swallowed, was ejected from her stomach. Her sense of hearing was at this time nearly perfect.

About two hours afterward she was placed upon a mattress in a wagon, and carried to her own house, a distance of two and a half miles. The vomiting continued throughout the afternoon, and the hæmorrhage from her ears until 8 or 9 o'clock in the evening. (I should have stated that the accident occurred at about noon.) The pulse had all this time been at about 85, and not particularly marked as to fullness.

When the nausea and vomiting had ceased a cathartic was administered, and perfect quiet enjoined upon the attendants.

On visiting her the next morning, she complained of loud noises in her head, resembling thunder and the report of fire-arms, with occasional dartings of pain, especially in the right side of her head. The discoloration of the integument was now more marked, and there was some ecchymosis around the right eye. Her sense of hearing was entirely gone.

In the afternoon she was seen with me by Dr. Wright, and put upon a low diet, with very little medicine, and the most absolute quiet. For a week she improved, and no bad symptoms manifested themselves; but on the 28th, one week after the injury, a discharge of serum, slightly tinged with blood, took place from the left ear, accompanied by pain in the head and severe neuralgic pains in the lower limbs; her pulse was weak, but not frequent. She was now put upon quinine and brandy, and in three or four days afterward the discharge and pain went off, since which, under tonics and stimulants, she has continued gradually, and with occasional "bad days," to improve. Her hearing, however, has never in the least degree returned.

SELECTIONS.

ON THE MOLECULAR THEORY OF ORGANIZATION.

By J. HUGHES BENNETT, M. D., F. R. S. E.,

Professor of the Institutes of Medicine, and Senior Professor of Clinical Medicine in the University of Edinburgh.

Parodying the celebrated expression of Harvey—viz., "*Omne animal ex ovo*," it has been attempted to formularize the law of development by the expression, "*Omnis cellula e cellula*," and to maintain "that we must not transfer the seat of real action to any point beyond the cell."* In the attempts which have been

* Virchow, English Translation, p. 3.

made to support this exclusive doctrine, and to give all the tissues and all the vital properties a cell origin, the great importance of the molecular element, it seems to me, has been strangely overlooked. It becomes important, therefore, to show that real action, both physical and vital, may be seated in minute particles, or molecules much smaller than cells, and that we must obtain a knowledge of such action in these molecules if we desire to comprehend the laws of organization. To this end I beg to direct attention—

1st. To a description of the nature and mode of origin of organic molecules.

2nd. To a demonstration of the fact that these molecules possess inherent powers or forces, and are present in all those tissues which manifest vital force.

3rd. To a law which governs the combination, management, and behaviour of these molecules during the development of organized tissue.

I. By a *molecule* is to be understood a minute body, seen under high magnifying powers in all organic fluids and textures, varying in size from the four thousandth of an inch down to a scarcely-visible point, which may be calculated at much less than the twenty thousandth of an inch in diameter. Optically it is distinguished according to its size, the smallest presenting dark or light points as the focus is changed, and the larger exhibiting a dark or light centre, surrounded by a distinctly-shadowed ring. These last are frequently distinguished by the name of *granules*. The ultimate molecule has never been reached even with the highest magnifying powers. In the same manner that the astronomer with his telescope revolves nebulae into clusters of stars and sees other nebulae beyond them, so the histologist with his microscope magnifies molecules into granules and sees further molecules come into view. The chemical composition of these molecules must vary infinitely, but I have been in the habit of classifying them into three groups, and referring them to (1st) the albuminous, (2nd) the fatty, and (3rd) the mineral compounds. These constituents may be mingled together in various proportions so as to produce simple and compound molecules. In the vast majority of cases they are globular in shape, but they may be angular, square, and of various forms. They may differ in size or be of tolerably uniform size in the same liquid or substance. They may be regularly or irregularly diffused in the matter examined. Sometimes they are concentrated in particular places, and at others scattered in groups. Their color is various. Most of the pigments in plants and animals are dependent on the formation of molecules, which in the human lung have been proved to be pure carbon, and in the tissues of plants and animals differently tinted kinds of fat or of wax.

These molecules may be formed in two different ways: 1st, by

precipitation in fluids ; 2nd, by the disintegration of previously formed tissues. The former may be called *histogenetic* and the latter *histolytic*. They may be denominated molecules of formation and molecules of disintegration.

Histogenetic molecules are formed either from the union of two simple organic fluids, or from precipitations occurring in formative fluids, holding various substances in solution. Fourteen years ago I read to the Royal Society of Edinburgh a paper giving an account of the results obtained by a union of oil and liquid albumen, the two organic fluids from which molecular matter is most commonly derived. It was Dr. Ascherson of Berlin who first discovered the important fact, that the mere contact of oil and fluid albumen caused the latter to coagulate in the form of a membrane, which he called the haptogen membrane, from *aptomai*, to come in contact. A more complete mixture of two such drops produces, as is well known, a white opaque fluid or emulsion, which in structure exactly resembles milk. That is to say, surrounded by a layer of membrane of coagulated albumen. Such compound molecules possessing the property of endosmose may therefore readily be produced artificially, and by trituration can be reduced in size so as to resemble the elementary molecules in chyle or in the yolk of an egg. If oil and albumen be introduced into the stomach and intestinal canal, they are always so reduced ; and one of the objects of digestion would appear to be, separating from the food and rendering fluid its oil and albumen, so as to produce the chyle-molecules which are ultimately transformed into blood. Indeed, everywhere in living organisms it may be observed that oil and albumen, formed as secretions by plants, and entering the bodies of animals as food, either separately or united, constitute the chief origin of molecular formations.

Mr. Rainey has recently pointed out the condition which causes molecular mineral matter to assume the form of rounded nuclear bodies.* This condition is viscosity. If carbonate of lime be dissolved in water, the forms produced on its precipitation are crystalline ; but if the fluid be glutinous—composed, for example, of fluid, gelatine or gum—the forms produced are oval or globular. Precipitations made in this way on slides of glass, closely resemble the appearances called nuclear or cellular in different stages of development. Mr. Rainey has further shown how starch granules are produced in the juices of vegetables by the endosmose of gum into a cell containing a solution of dextrine.† In the same manner that the contact of oil and albumen produces oleo-albuminous molecules, so does the contact of gum and dextrine precipitate starch molecules. In this manner we can comprehend how the

* On the Mode of Formation of Shells of Animals, of Bone, and of several other structures, by a process of Molecular Coalescence, &c. By George Rainey, M. R. C. S. London, 1855.

† Microscopical Journal, 1859.

mixture of various organic fluids gives rise to particles of different kinds.

Histolytic molecules are the result of the transformation and disintegration of fluid and solid substances by chemical or mechanical action. They are generally larger in size than histogenetic molecules, are more purely fatty, and, from being associated with the *débris* of broken-down texture, may in most instances be readily distinguished. Thus in the breaking up of cells and of muscles when they become fatty, or in the putrefaction of vegetable or animal matters, these may be seen to soften, lose their peculiar structure, break up, and ultimately be reduced to a molecular condition.

We shall subsequently see that these two kinds of molecules are constantly changing places; or, in other words, molecular matter formed from the process of disintegration may, when placed under peculiar circumstances, become the basis of matter which undergoes development. In nature, the breaking down of one substance is the necessary step to the formation of another; and the histolytic or disintegrative molecules of one period become the histogenetic or formative molecules of another. The fact constitutes the basis of the law which I shall subsequently seek to establish.

II. These molecules are governed by forces, which induce amongst them a variety of movements, and cause them to combine in definite ways. This force, which we may call *molecular force*, is altogether independent of cell, nucleus, or other form of structure.

1st. There are the well known molecular movements described by Robert Brown. These vibratile, circular, serpentine, or irregular motions may be observed whenever molecules are suspended in fluids of certain densities, but are too well known to require notice here. They occur altogether independent of organized structures, and must be regarded as in their nature purely physical.

2nd. The peculiar movements observed in the interior of cells, vegetable or animal, and during the putrefaction of organic matter. The former are seen in the large vegetable cells of the *Chara*, *Valisneria*, and *Tradescantia*, amongst plants; and those of chyle, the yolk of the egg, and of the salivary cell amongst animals. I have frequently watched the formation of the latter in putrid fluids. A scum, composed of molecules, collects on the surface; gradually several of these unite in minute filaments, more or less long, which assume vibratile or serpentine movements. They are then called *vibriones*. It has been much disputed whether this class of molecular motions be physical or vital.

3rd. The movements, which are unquestionably vital, that occur in the molecules of the yolk, on the entrance into the ovum of the spermatozoid. Here it cannot be maintained that the results are

purely physical, because in different ova we see such widely varying effects from apparently the same cause. Neither can it be attributed to any direct influence of the cell or of its nucleus—the germinal vesicle. For example, an egg is fully matured in the female organs of generation, and would prove abortive if a spermatozoid did not find its way through the zona-pellucida and get amongst the molecules of the yelk. As soon as it does so, the apparently purposeless Brunonian movements receive a new impulse and direction. Both spermatozoid and germinal vesicle are dissolved amongst them; and that wonderful phenomenon of the division of the yelk takes place, not by cleavage or other action of the cell-wall or nucleus, but by the separation of the mass into two masses instead of one. This may be compared to what is observable in a dense crowd of men, called upon to pass over to the right or left hand in order to settle any disputed question by a majority. At first unusual confusion is communicated to the whole; some hurry in one direction, others in another; but, after a time, there is seen at the margins, where the crowd is least dense, a clear space, which gradually approaches the centre, and at length bisecting the whole, produces a complete segregation of the crowd into two portions. So with the molecules of the yelk in the egg after impregnation; their movements are directed by conditions which did not previously exist, and a stimulus is imparted to them which causes the peculiar result. It is the division and subdivision of the yelk, wholly or in part, which produced the germinal mass out of which the embryo is formed, and this not by any direct influence of the cell or nucleus, but in consequence of a power inherent in the molecules themselves, which is communicated to them for a specific purpose.

4th. The peculiar movements so well described by Brucke, Von Wittich, Harless, and especially by Lister, in the pigment-cells of the frog's skin;* and which occasion the sudden change of color in the chameleon, in fishes, and numerous other animals. The black pigment molecules may be diffused throughout the cell or concentrated in a mass, and all kinds of intermediate gradations may exist between diffusion and concentration. The change in color is owing to these alterations in the molecules, the tint being light when they are concentrated, and dark when they are diffused. Mr. Lister ascertained by experiment that their concentration is caused by exposure to light, by death of the animal, and by sudden section of the nerve going to the skin; while darkness and irritation of the nerve or skin causes diffusion. Sudden amputation of the limb produced at first diffusion, followed by the concentration of death. These movements of the pigment molecules are peculiarly vital, and altogether independent of the cell-

* On the Cutaneous Pigmentary System of the Frog.—*Philosophical Transactions*, 1858.

wall or nucleus. The cell-wall is stationary, and acts only as a sac or investing membrane around the moving particles, while the concentrations of these about the nucleus is purely accidental, and frequently occurs in other parts of the cell. I have seen these molecules myself, as Mr. Lister describes them, streaming out to, and returning from, the circumference, under the influence of the stimuli referred to, where no cell nor nuclear action could be thought of.

5th. There are many other kinds of movements which are evidently independent of cells—for example, those of cilia and of spermatozooids. The former are outside cells, and the latter only move when they are liberated from cells. The contractile fibrillæ of muscle are evidently not dependent for their inherent powers on cells or other form of structure, but on the square-shaped molecules of which its substance is composed. All these phenomena, therefore, are connected with the molecules themselves; the force occasioning them is a molecular force, and has nothing to do with pre-existing cells, or supposed germinal centres, as some have imagined.

Again, the power of combination between these molecules, which, under peculiar conditions, not only move, but so move as to advance towards and press upon each other, that they at length unite and produce higher forms, must also be attributed to a molecular force operating in obedience to fixed laws. Thus it was demonstrated by Newton, that in a sphere the total attraction resulting from the particular attraction of all its competent parts is, as regards any body drawn towards it, the same as if they had been concentrated at the centre. Hence minute spherical particles, as so many gravitating points, will be drawn towards each other with a force varying inversely as the squares of the distances between their respective centres. I may here refer to the able descriptions of Mr. Rainey,* as to the physical laws regulating the formation and disintegration of bodies by molecular attraction and repulsion as well as to the effects of molecular superposition, showing that the same physical power which leads to the formation of these artificial bodies, when long continued, causes their disintegration and destruction. All these changes occur slowly, and require time; but their contemplation, when regarded as purely physical phenomena, must strike us with surprise, as being closely allied to all our conceptions of the progress of life itself.

In making use of the expressions *life* and *vital action*, I am only using terms to indicate phenomena which, in the present state of science, cannot be accounted for by the ordinary laws of physics. Or it might be said that certain actions are directed and governed by conditions which are as yet undetermined, but which, as they

* *Op. cit.* See also papers in the *Microscopical Journal*, 1860.

only occur in organic, as distinguished from inorganic bodies, constitute vital actions. Not that an organized body is independent of physical forces, but that certain directions are communicated to them, which, as invariably resulting in specific forms or properties, make up the sum of what we call vitality.

Hence, although we see molecules combining in the forms of crystals and nucleated spherules, inasmuch as we have discovered the physical conditions on which they depend, and can produce them artificially, we have no difficulty in classifying these amongst purely physical phenomena, even when they occur in the interior of animals. But when other molecules unite to form nuclei, cells, and fibres, and these arrange themselves into tissues and organs to produce plants and animals, we are ignorant of the conditions by which these results are brought about—we cannot imitate them artificially, and are content to call them vital. But the fact I am anxious to point out is this, that so far as observations and research have enabled us to investigate this difficult matter, it appears that the formations and disintegration of vegetables and animals, as well as the peculiar properties they exhibit, are essentially connected with the molecular element. Thus, when we investigate the functions of plants and animals—for example, generation, nutrition, secretion, motion, and sensation—we find them all necessarily dependent on the permanent existence and constant formation of molecules.

Thus generation, both in plants and animals, is accomplished by the union of certain molecular particles called the male and female elements of reproduction. Amongst the Protophyta the conjugation of two cells enables their contents, or the endochrome, to mix together. This endochrome is a mass of colored molecules, and the union of two such masses constitutes the essential part of the generative act. In the Cryptogamia, a vibratile antheroid particle enters a germ-cell, and finds this last filled with a mass of molecules, which, on receiving the stimulus it imparts, assumes the power of growth. It is the same amongst the Phanerogamia when the germ-cell is impregnated by the pollen tube. In all these cases it is necessary to remember that the protoplasm is a mass of molecules; that a spore is another mass of molecules; that sporules are molecules; that antherozoids are only molecules with vibratile appendages; and that the so-called germinal matter of the ovule is also nothing but a mass of molecules. Cell-forms are subsequent processes, and once produced may multiply endogenously, by gemmation or cleavage; all that is here contended for is, that the primary form is molecular, and that the force producing action in it is a molecular force.

In animals, as in vegetables, every primary act of generation is brought about by the agency of molecules. The Protozoa entirely consist of mere molecular gelatiniform masses, in which it has never been pretended that a cell-wall or central cell exists. And

yet such masses have the power of independent motion, and of multiplying by gemmation. Considerable discussion has occurred as to whether, amongst Infusorians, there is a union of sexes or a conjugation similar to what occurs amongst the Protophyta; but in either case it is by molecular fusion that the end is accomplished. In the higher classes of animals there are male elements, consisting of molecules, generally with, but sometimes destitute of, vibratile filaments; and female elements, composed of the yelk within the ovum, containing a germinal vesicle or included cell. Both spermatozoid and germinal vesicle are dissolved in the molecules of the yelk, which then, either wholly or in part, by successive divisions and transformations, constitute a germinal mass out of which the embryo is formed. Here, as in plants, it is necessary to remember that the spermatozooids, the yelk, and the germinal mass are all composed of molecules, and that these, combining together, form the nuclei, cells, fibres, and membranes which build up the tissues and organs of the organism. It is not from either the male or the female element that the embryo is formed. The supporters of an exclusive cell doctrine have endeavored to show that there is always a direct descent either from the wall of the ovum or from the germinal vesicle as its nucleus. Thus some consider that the vitelline membrane sends in partitions to divide the yelk mechanically. Others have formed the idea that the germinal vesicle bursts, and that its included granules constitute the germs of those cells which subsequently form in the germinal mass. Others, again, suppose that on impregnation the germinal vesicle divides first, and that the molecules of the yelk are attracted round the two centres so formed. But numerous observations have satisfied me that both spermatozoid and germinal vesicle are simply dissolved amongst the molecules of the yelk, from the substance of which, stimulated and modified by the mixture so occasioned, the embryo is formed; a view which has further the merit of explaining what is known of the qualities of both parents observable in the offspring. I am only acquainted with one exception to this general law—namely, the development of *Pyrozoma*, recently described by Mr. Huxley, the description of which, however, is incomplete.* The truth appears to be, that in an analogous manner to that in which the pigment molecules of the skin are stimulated by the access of light to enter into certain vital combinations with one another, so are molecules of the yelk stimulated by the access of the spermatozoid to produce those other vital combinations that result in a new being. The essential action is not so much connected, as has hitherto been supposed, with the cell-wall or nucleus, as with the molecular element of the ovum.

With regard to nutrition—food and all assimilable material must

* Annals of Natural History, Jan. 1860, p. 35.

be reduced in the first instance to the molecular form, while the fluid from which the blood is prepared—chyle—is essentially molecular. Most of the secretions originate in the effusion of a fluid into the grand-follicle, which becomes molecular and gives rise to cell formation. In muscle, the power of contractility is inherently associated with the ultimate molecules of which the fasciculus is composed; and, lastly, the gray matter of the sensory ganglia and of the brain, which furnishes the conditions necessary for the exercise of secretion, and of even intellect itself, is associated with layers of molecules which are unquestionably active in producing the various modifications of nervous force. These molecules are constant and permanent as an integral part of these tissues, as much as cells and fibres are essential parts of others, and their function is not transitory, but essential to the organs to which they belong.

All these facts point to the conclusion that vital action, so far from being exclusively seated in cells, is also intimately associated with the elementary molecules of the organism.

III. This leads me, in the third place, to an enunciation of the molecular law of growth, which a study of the numerous facts previously referred to has induced me to frame—viz.: *That the development and growth of organic tissues are primarily owing to the successive formation of histogenetic and histolytic molecules.* We have already seen that development and growth in animals originate in the molecules of the yolk of the egg, or of a germinal molecular mass formed from it. From numerous careful researches recognised by scientific men as giving a correct account of the development of various animals and textures, it would appear that the first form is molecular; that the molecules unite to produce nuclei and cells; that these become disintegrated to produce a secondary mass of molecules; that these again unite to form secondary nuclei and cells; and that the same process is repeated more or less often in various developments, until the animal or tissue is formed. This constitutes the successive histogenetic and histolytic molecules observable in the process of growth—the former building up, to a certain extent, and the product disintegrating to produce the latter, which after a time, again, rearranges itself and becomes histogenetic to form cells or tissues, which in their turn break down and become histolytic. In short, not only development, but growth and secretion, absorption and excretion, are only different names given to histogenetic and histolytic processes, and these are brought about by formative and disintegrated molecules. As illustrations of this law, I may refer to the development of *Ascaris mystax*, as described by Nelson,* and of the process of nutrition in the human body.

In this, and a vast number of similar observations, it must be

* Philosophical Transactions, 1850, plates xxviii., xxix., figs. 50, 68, 70, 78.
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evident that a certain series of molecular transformations is necessary for the one which follows it. Thereby is produced a continual elaboration of matter,—a constant chemical and morphological series of changes,—the exact number and order of which, in the production of organic forms, only require time and perseverance to discover. Doubtless various conditions, dynamical, chemical and vital, must co-operate in producing the result, and they must all influence molecular as well as every other kind of combination. Such considerations and facts must convince us of the error of endeavoring to place the source of special vital action in any particular form or arrangement of organic matter, whether fibre, cell, nucleus, or molecule. Each and all of these elements have their vital endowments, which re-operate on the others. But, inasmuch as the molecular element is the first as well as the last form which organized matter assumes, it must constitute the principal foundation of organization itself.

It is not my object, in directing attention to a molecular theory of organization, to interfere in any way with the well-observed facts on which physiologists have based what has been called the cell-theory of growth. True, this last will require modification, in so far as unknown processes of growth have been hypothetically ascribed to the direct metamorphosis of cell-elements. But a cell once formed may produce other cells by buds, by division, or by proliferation, without a new act of generation, in the same manner that many plants and animals do; and this fact comprehends most of the admitted observations having reference to the cell doctrine. The molecular, therefore, is no way opposed to a true cell-theory of growth, but constitutes a wider generalization and a broader basis for its operations. Neither does it give any countenance to the doctrine of equivocal or spontaneous generation. It is not a fortuitous concourse of molecules that can give rise to a plant or animal, but only such a molecular mass as descends from parents, and receives the appropriate stimulus to act in certain directions.

In conclusion, the theory I have endeavored to establish on histological and physiological grounds is fully supported by all the known facts of disease and of morbid growths, which further serve to show that pathology, so far from being cellular, is, in truth, molecular.—*London Lancet.*

THE HEALTH CLIMATES OF ITALY.

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The health climates of Italy are limited to its western shores, owing to a very simple geographical condition. Italy is divided into two longitudinal sections by the chain of the Apennines, which extend from Genoa to the Gulf of Otranto, at its most southern extremity. These mountains, rising from four to seven thousand feet in height, constitute a kind of longitudinal screen, which protects the western shore from the north-east winds of central Europe. Thence a totally different climate, throughout the Italian peninsula, on the east and west of the Apennine ridge. On the eastern, or Adriatic side, owing to the predominance of the cold winds from central and eastern Europe, the winter and spring are much colder than on the western or Mediterranean side. The latter, also, is not only protected from the north-east winds, but is open to the warm south-west winds, which often blow from the south-western shores of the Mediterranean, and bring with them warmer sea-currents. The western Riviera is protected from the north-east by a spur of the Savoy Alps, which, under the name of Maritime Alps, runs along the shore from Nice to Genoa, where it unites with the Apennines.

Genoa is not so much a medical station as a resting place for travelers and invalids entering or leaving Italy. Its situation is admirable: at the angle of the gulf formed by the eastern and western Rivas, protected by mountains, and exposed to the south-western sun. Hence it is very warm in summer; but in winter the protection afforded by the Apennines is incomplete, owing to a "defect in the armor." Behind Genoa the Apennines present valleys, through which the railroad from Turin has managed to find its way, and through which also the north-east wind reaches the town when winter has fairly set in on the plains of Lombardy. Still the protection is sufficient to make the climate perfectly different in autumn and spring. Last October (20th) there was a heavy cold fog when I left Turin, which continued until we reached the mountain passes, completely obscuring the horizon. Winter was everywhere, the trees leafless, and the soil denuded. The fog had left us when we emerged from the first tunnel, and the air had become clear, cool, and bracing. On emerging from the last, a few miles from Genoa, we had gone back

to midsummer ; the sky was blue, the sun bright, the air warm ; the windows and doors were wide open, and the out-door life of Italy was in full operation. It was indeed difficult to believe that half an hour—the passage of a tunnel through a mountain—could have so entirely changed the climate and the aspect of all around. Genoa presents two other disadvantages ; it is a densely populated city ; and, like all Italian towns, badly if at all drained, and unhygienically built. In all large towns in Italy the streets are very narrow, generally only a few feet wide. The object was no doubt two-fold : firstly, to provide for the exigencies of fortification ; and secondly, to exclude the sun, the summer enemy. The towns and villages now found in the south are all historical ; they are the towns and villages of the middle ages, and as such circumscribed within walls and fortifications just as hundreds of years ago. Such a style of architecture is proverbially unhealthy, especially in the south, amongst an extremely dirty population, to whom the decencies of modern civilization are as yet all but unknown. To crown the whole, all the principal hotels at Genoa are on the port, the receptacle of what drains there are, and tideless, as are all ports in the Mediterranean. The sooner, therefore, the invalid leaves Genoa the better. * * * * *

Pisa is situated in the open plain, some miles from the mountains which protect it. This plain shows no evidence of southern vegetation at all ; not even containing the olive-trees so common all along the coast and on the adjoining hills. Nothing is seen but the dry-stick-like deciduous mulberry, with vines, like old ropes, trailing from them. The town is surrounded by a high wall, which must impede ventilation. The streets are narrow, sunless, damp, and cold. The far-famed Arno, which passes through the town, forming an arc, is a mere ditch or moat, like the moat of an old fortified town in the north of France, with stones instead of grass, and a sluggish dirty stream meandering at the bottom—a kind of open main-drain. The quarter of the invalids is a quay on the bend of this moat river, about a mile long, and bordered by gloomy fourth-rate houses. Here the invalids are condemned to walk up and down, looking at the stones and dirty water below, occasionally swollen into a yellow torrent by the rains. The sunless streets are so cold that the chest invalids are not allowed to go into them. The country around is a mere dull denuded plain, which even a southern sun cannot enliven. Moreover, it is often very cold at Pisa, more so than at Rome. There are often fogs on the Arno, and it rains constantly in winter. To crown all, Pisa is an unhealthy town to its own inhabitants, like Genoa, Florence, Naples, and all these ill-built, ill-drained, dirty, wall-cramped southern cities. The average duration of life is twenty-nine years at Pisa and Florence, and twenty-eight only at Rome and Naples ; whilst in Paris it is thirty-nine, and in London forty-four. For corroborative evidence I must refer to Dr. Carere's highly-esteemed work on "*Le Climat de l'Italie.*"

Florence is not a winter residence for invalids; it is a mountain town, and much too cold. From Pisa you pass through thirty miles of valleys and mountain land to reach it, and, once there, you are surrounded by mountains on every side, many of which were covered with snow when I was there, early in November.

Rome is a winter residence for healthy tourists, not for invalids. The malaria reigns there, more or less, all the year. Every winter it makes victims, even among the healthy. Moreover, invalids should scrupulously avoid churches, galleries, festivities, and parties: and what is Rome without these, the life of the Eternal City? merely a temptation and a snare. I may add, all that has been said about the dirt, defective drainage, and general unhealthiness of Genoa and Pisa, equally apply to Florence and Rome. * * *

Naples exhibits the concentration of all the unhygienic conditions previously alluded to. More than 500,000 dirty Southerners are living in an extremely confined space, in high houses, in damp sunless streets, in the midst of every imaginable abomination by which the eye and the smell can be offended. The drains all run into the tideless sea, or on to the shore. In the most fashionable part of the town, in front of the houses occupied by the nobility and by strangers, is a narrow public garden, the fashionable promenade, "the Chiaja," running for a mile along the shore. On this shore eight public drains empty themselves, not into the sea, but on to the sands, then to trickle down by slow degrees. The largest is opposite one of the chief hotels, and is usually so offensive, that those who are alive to these questions always feel inclined to take a run in passing. On the land side of this garden is the main drive, or street, and on each side of the pavement, as in most other streets, there are large slits in the road every few feet, a foot long and about an inch broad, to allow the rainwater to escape into the drains, which thus freely communicate with the exterior. It is between these shore drains on the one side, and the drain-ventilated street on the other, that fashionable Naples daily promenades, and it is by the side of this choice region that our countrymen live, and not unfrequently, die. The picturesqueness of Naples life, closely analyzed, is, in a great measure, that of filth, dirt and rags. The picturesque fishermen pass their lives fishing at the mouth of these sewers. The picturesque lower orders eat, drink, and sleep, as it were, in public, windows and doors open, if they have any. They are clothed in rags, which they appear never to take off until they fall from them, and they are infested with vermin, which they scratch off each other at every street corner. The town is surrounded by pestilential marshes, and is built on a tufa rock, or kind of pumice stone, so porous that it lets the rain soak in twenty feet, to give it out later by degrees. Thus moss grows in winter wherever the sun does not reach.

A few days after my arrival in November, the autumn rains

commenced with a warm oppressive sirocco, or south-east wind. The torrents of rain that fell in the first twelve hours washed the streets and drains of their accumulated abominations into the sea. The wind and waves, on the other hand, drove them back again and again on the shore, whilst the wind rushing up the open drains, escaped through the rain openings in the streets, and through the open closets in the houses. The smell throughout the entire lower part of the city was awful, and a considerable portion of the population was at once affected with abdominal pains, diarrhœa, and even dysentery. I was one of the first victims, and after nearly three weeks' illness, was only too glad to embark on a Genoa steamer, and to return to pure, healthy Mentone, where I spent the rest of the winter. * * * * *

In former days, when the laws of hygiene were ignored by the medical profession as well as by the non-medical public—when fevers and plagues were merely studied and treated as inscrutable dispensations of divine wrath, it was, perhaps, excusable for writers on climate to devote their undivided attention to meteorological questions. But now that the mist and darkness have been dispelled, that typhus fever and other town diseases have been traced to their causes—filth, defective drainage, &c.—we know that attention to hygienic laws is even more necessary for the recovery of health than it is for its retention. In choosing a winter residence, therefore, hygienic conditions should be first considered, even before warmth and sunshine. If we are to be guided by such considerations, however, I must candidly confess that I have not yet seen a large town in the South of Europe the hygienic state of which is such as to render it a safe winter residence for an invalid. In most of these towns, moreover,—Rome, Florence, Pisa, Naples,—the positions selected for and devoted to invalids are central, and owe their protection in a great measure to buildings, which secure to them the town atmosphere undiluted. Thus is explained the frequent deaths from “fever” amongst our countrymen, ill or well, residing in them, which we every year see chronicled. On the spot you are told that they have died from the fever of “the country.” But this fever of the country, as far as I could gather from minute inquiry, is no other than our own old enemy, typhus, under a continental garb. Its characteristic features may be modified by some malarious or catarrhal element, but the type is the same. The cause, too, is identical, in the Italian marble palace and in the St. Giles’s hovel—foul air inside and outside the house, everywhere.

Having failed to discover any more sheltered spot than the vicinity of Nice in the eastern Riviera, I determined, on leaving Genoa, to minutely examine the western Riviera, along which there are many populous towns and villages. Each successive station—Savona, Finale, Oneglia, St. Remo, Ventimiglia—was examined, and abandoned as inferior, until I once more found myself

in the well remembered site of my previous winter's experience. The conviction which this journey produced, that the Mentone amphitheatre affords infinitely superior protection to any to be found between it and Pisa, on either Rivas, will be explained by the following details.

On no part of the coast do the mountains in its immediate vicinity rise in a chain to the same height—namely 3,500 to 4,000 feet. Nowhere do they recede in the same manner from the shore in an amphitheatre, as it were, so as to completely shelter from the north, east and west a hilly district such as the one which constitutes the centre of this amphitheatre. Nowhere also is there such a background of still higher mountains lying due north, so as to protect in its turn the semicircular shore chain. This background of mountain land extends fifty miles to the north into Savoy, and is limited only in that direction by the Tende mountain, which is above 6,000 feet high. These mountains extend towards the shore in a south-easterly direction, and all but reach it about Oneglia, half way between Nice and Genoa. Thus between Genoa and Oneglia the mountain which skirts the shore is neither very deep nor very high, whereas between Oneglia and Nice the depth and height of the mountain land constantly increases. Consequently the amount of protection offered towards the north increases in the same ratio, until at Mentone the greatest amount of shelter and the warmest climate of the entire Riviera is reached.

The various towns which skirt the coast are all naturally placed at the mouths of the rivers which form their ports, and the rivers of course empty themselves from valleys which break the mountain line. These valleys being nearly always directed north and south or thereabouts, the towns are always placed in the coldest situations on the coast, at the entrance of breaks in the mountain chain, down which the cold winds blow. A glance at the vegetation shows this: orange trees retreat, and olives and pines take their place. Here and there, as the road winds along the coast, sheltered nooks and romantic sheltered bays are seen at one's feet, where the orange and the lemon, the cactus and the pepper plant, seem to thrive luxuriantly, finding the same warmth and shelter as at Mentone. But in these exceptional corners there is generally no population—not a house; the traveller can only admire and pass on. Again, in these towns the inhabitants are thoroughly Italian; they still live on macaroni, olive-oil soup, and bread, with an occasional taste of meat, and ignore entirely the multitudinous wants and requirements of our "difficult-to-please" countrymen.

To appreciate the admirable situation of Mentone, the traveller should take a boat, or the little steamer from Nice, and examine it from the sea. He will then see a magnificent panorama—a mountain chain forming a species of arm chair: the back or north

rising to 4,000 feet in a series of peaks; the two sides nearly as high, east and west; in the centre a succession of gently-ascending hills, covered in graduated order with lemon trees, olive trees, and firs. The whole line basking in a bright sunshine, which, with a few days' exception, lasts all the year round.

The vicinity of Nice has at last roused Mentone to a sense of the value of its climate and position. The inhabitants have invested, I was told by the syndic, all their savings—about £80,000—in building villas and suburban houses for their visitors, and now can accommodate about 300 comfortably and hygienically. These houses have been built outside the town along the sea shore, so that they unite the climatic advantages which Mentone affords with the hygienic conditions, which, as I have stated, are equally, indeed more necessary.

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I have little to add to what I said last year, except to slightly modify what I stated about the general character of the weather, in a favorable sense. At Mentone as elsewhere, winters follow without being quite alike. This last winter, the general character of the wind was more southerly than the previous winter. As a result there were more rainy or cloudy days, but fewer cold ones. The only cold days we had throughout the winter were two or three at Christmas, when the thermometer went down to the freezing point in exposed situations at the sea level. Throughout the winter otherwise, the night minimum varied from 40° to 45°; the day maximum in the shade, from 50° to 56°: in a south room, without fire and the window open, from 58° to 64°.

My medical experience, also, was pretty much the same as last year. Many of the phthisical patients who submitted to strict discipline, and did all that was right medically, hygienically, and socially, rallied in a very remarkable manner. The best cases, as is usual in all health localities, were those in whom phthisis was not hereditary, but accidental, and in whom it was in its incipient stages. Some, although, in a very advanced stage, remained stationary under judicious treatment: whilst several others continued to progress through the successive stages of their disease, and died in the course of the winter. What speaks well for Mentone as a health station is, that although there were nearly two hundred English residents during the winter, there was not a single case of dysentery, malaria, fever, or of severe accidental disease that could be attributed to external agencies.—*London Lancet*.

HALF-YEARLY REPORT ON PHYSIOLOGY.

RESPIRATION AND CIRCULATION.

1. Salter, after having alluded to the views of other observers, and to the anatomy of the lungs, arrived at the following conclusions with regard to the nature and cause of the respiratory murmur: "1. That the air-cells are structurally incapable of producing a respiratory murmur by their slight dilatation. 2. That the respiratory murmur is essentially a fine-tube sound. 3. That the lobular passages and ultimate bronchial radicles are probably its immediate seat. 4. That while the lung parenchyma, from its heterogeneous constitution, completely muffles all sound, the unbroken column of air in the bronchial tree is an excellent conductor; that thus the respiratory murmur has a double cause, and is in part the result of air-and-wall friction at the spot, and in part the bronchial sound of the larger tubes (although essentially modified) conducted by the unbroken column of air to the ultimate bronchial twigs. 5. That the restriction of the sound to inspiration (excess of inspiratory over expiratory sound) depends mainly on convection, but probably also in part on the great amount of air-and-wall friction produced by the impact of the air at the points where the tubes divaricate.

2 and 3. The frequent coincidence of diabetes and pulmonary tubercles has led Mandl to perform experiments on the influence of solutions of sugar and some other sweet substances (cane sugar, glyucose, sugar of milk, glycerine, and mannite) on various species of aquatic animals, as infusoria, annelida, crustacea, water-insects, fishes, and batrachia. The results are:—1. That all aquatic animals perish in solutions of sweet substances; there is, however, a difference as to the time of death, depending on the degree of concentration of the solution, on the quality of the substance contained in the solution, and on the species of animal. Thus, the infusoria died almost instantaneously in solutions of 20 per cent. of cane sugar, glyucose, glycerine, and mannite, but lived about five minutes in a concentrated solution of sugar of milk; they died after six or eight minutes in a solution of 4 per cent. of mannite, while they lived three times as long in a solution of equal strength of cane sugar. Some fishes (12 to 15 centimetres long) perished in a solution of glycerine of 10 per cent. after about forty minutes; in a solution of cane sugar of the same strength only at the end of four or five hours. 2. That the death is not caused by a chemical action of these substances, or by fermentation, or ab-

sence of air, or by the viscosity of the fluid, but only by the osmotic action (endosmosis and exosmosis) exercised by the solutions of the sweet substances. 3. That this process takes place through the permeable membranes, and especially through those of the respiratory organs. The not fermentable sweet substances possess a greater osmotic power, and act also more rapidly on the life of the animals. 4. Experiments made with animal membranes, to demonstrate which of the elements of the blood pass over into the solution of sugar, have shown that the first to pass over is water charged with the salts of the serum, after which follows albumen, the coloring matter being the last. The passage of the albuminous substance is retarded by greater concentration of the osmogenous substance. Mandl promises to communicate in another paper the results of his injection of solutions of sugar into the respiratory organs, with regard to the formation of tubercles of local nature, in opposition to the tubercles resulting from the tubercular diathesis. In the present essay, the author points out how the osmogenous power of sugar explains various physiological and pathological phenomena, as the sensation of thirst after the ingestion of sugar; the antiseptic power of sugar; the digestive property of small quantities of sugar, causing exosmosis of gastric juice; the absorbing power of large quantities of sugar in dropsies; the great thirst of diabetic individuals; the impossibility of serous effusions in such patients. To the great osmotic action of the glycerine, the author ascribes also the influence of this substance as a local remedy.

4. Beau has performed on dogs several series of experiments, to elucidate the cause of death by submersion, especially with the view to explain the fact, that the air-passages of drowned animals contain only a very small quantity of fluid. The inference is, that the immersion of the natural orifices of respiration causes, "by sympathetic or reflex action, spasmodic occlusion of the sphincters or orifices of respiration, and stopping of respiratory movements." The death from drowning, the author argues, is therefore analogous to that from tetanic affection of the muscles of respiration. The two principal experiments are, that of two animals, in whose opened trachea a canula has been inserted; the lungs of the one which had been entirely submerged under water contain only the usual small quantity of frothy fluid; while the air-passages of the other, whose head had been kept out of the water, are filled with that fluid.

5. According to G. B. Halford, the auriculo-ventricular valve is closed already before the commencement of the ventricular systole. "Immediately the auricle contracts," the author states, "its contained blood passes into (distending and lengthening) the ventricle; the force which it transmits not being sufficient to overcome the arterial pressure and weight of blood upon the upper or arterial surface of the semilunar valves, is expended in distending

the ventricle and closing the auriculo-ventricular valve, which then forms one of the walls of the ventricle. To this succeeds the ventricular contraction; the auriculo-ventricular valve being already closed, now becomes tense, the pressure in the ventricle overcomes that in the artery, and the semilunar valves are raised." This description is in exact harmony with that given by Dalton in his lectures presently to be mentioned.

6. Dalton gives, in his course of lectures just alluded to, a very lucid description of the phenomena of circulation in their connexion with various other functions and conditions of the body. The first lecture is introductory, treating on the nature of physiological studies, the methods of investigation, the complication of physiological phenomena, the rules for conducting physiological experiments, and similar questions. In the second lecture, the author considers the action of the heart, the form and position of the ventricles, the structure and action of the ventricular valves, the difference between the mitral and tricuspid valves, the closure of the valves from behind forward, the action of the arterial valves, and the position of the different parts of the heart in the chest. With regard to this last question, Dalton observes that it is impossible to judge of the natural situation of the thoracic viscera by inspection, after the chest has been opened in the usual manner, as practised in post-mortem examinations; for by the collapse of the lungs, the support naturally afforded by these parts is taken away, and the heart necessarily falls out of position. The method of fixing the organs, by thrusting long needles through the integuments in various directions into the chest before opening the thorax, gives likewise an imperfect view; he prefers that of tying the trachea before opening the chest, and thus preventing the collapse of the lungs. From examinations conducted in this manner, Dalton finds "that the ascending portion of the arch of the aorta lies nearly in the median line. The bases of the aorta and pulmonary artery, and of course the aortic and pulmonary valves are situated almost exactly in the median line, at the level of the third costal cartilage or the third intercostal space. The base of the aorta, where it begins to show itself above the body of the heart, is behind and a little to the right; while the upper part of the conus arteriosus and base of the pulmonary artery are placed in front and a little to the left." Of the heart proper, the anterior surface of the right ventricle "occupies the median line, and lies directly behind the whole width of the sternum, and is placed, moreover, on a plane altogether posterior to that of the ventricle. The body of the auricle, in fact, does not come up at all in contact with the sternum; and it is only a portion of the appendix auricularis that overlaps, from the right, the base of the ascending aorta."

It is principally from the consideration of the natural position of organs, as described in the preceding statement, that Dalton

maintains that the pulsating tumor observed in the sternal fissure of the well-known Mr. Groux is not, as stated by the majority of observers, the right auricle, but the right ventricle, the tumor being situated rather to the left of the median line, and its contraction being, besides, synchronous with the impulse of the heart.

In the third lecture the author describes the movements of the heart during life, the appearance of the lungs in respiration, the visible alteration in the color of the blood in passing through the lungs, and the effects of stopping the respiration on the blood, the heart and the great vessels. The order of succession and the mechanism of these changes are delineated, as they show themselves in dogs poisoned by woorara, the circulation having been kept up by artificial respiration. Dalton divides the changes into two stages. First stage: As soon as the lungs are allowed to collapse there is a *very slight* swelling of the cavities of the heart; the blue or venous blood is seen to pass as such through the capillaries of the lungs and through the pulmonary veins into the left side of the heart. There is, therefore, no stoppage of the blood in the capillaries of the lungs, but a passing through of unarterialized blood. Second stage: As soon as the venous blood is transmitted through the arteries into the capillaries, the arterial system and the ventricles of the heart become excessively distended; but the distension of the arteries and aorta distinctly precedes that of the ventricles. The lecturer infers from this, that the impediment in the circulation is not in the lungs, but in the capillaries of the body; that the distension of the cavities of the heart does not, as frequently described, begin on the right side, but on the left. This view is strengthened by the fact that the venous system, especially the *venæ cavæ*, are at first not enlarged, but rather scantily supplied with blood. Dalton then states what further changes take place at the moment of death, when the heart actually ceases to pulsate. At the moment of death the arterial system is distended, not only in consequence of the difficulty in the passage of the venous blood through the capillary system, but also in consequence of the contractions of the left ventricle forcing additional quantities of blood into the aorta. As soon, however, as the heart begins to be paralysed, the engorgement of the arterial system diminishes, while that of the heart increases. The arteries, by the elasticity of their own walls, gradually force the venous blood through the capillaries, and return to their original size, and even become smaller. The left auricle in the last stages of the heart's action diminishes sensibly in size, while the right remains distended, and the *venæ cavæ* become filled with blood. The pulmonary artery remains distended longer than the aorta, but finally contracts likewise. Later, a post-mortem contraction of the heart, similar to the cadaveric rigidity of other muscles, takes place, by which the cavity of the left ventricle, which at the time of death was distended, is more or less completely obliterated, and that of the right perceptibly diminished.

The fourth lecture is devoted to the consideration of the rhythmical character of the heart's action, which is regarded as not dependent on the blood, or on the nerves or other stimuli, but on peculiar vital endowments inherent in the organization of its muscular fibres. The influence of the nervous system, especially the pneumogastric nerve, the effect of narcotic poisons, of ether and chloroform, and the action of hydrocyanic acid and of the different kinds of Woorara, are likewise treated on in this lecture. — *Weber, in B. & F. Medico-Chirurgical Review.*

ABSTRACT OF CURRENT MEDICAL LITERATURE.

CHANGES IN WOMAN'S MILK, PRODUCED BY MENSTRUATION AND PREGNANCY—FOOD MOST PROPER FOR INFANTS WHEN DEPRIVED OF THE MOTHER'S MILK.—Prof. N. S. Davis presented to the Illinois State Medical Society, at its tenth annual meeting (1860), a report on this subject, in continuation of one made to the American Medical Association in 1856.

The present report is based on twelve cases of pregnancy, and eight of menstruation. "In all the cases of pregnancy commencing during the continuance of lactation, there was a noticeable change in the quantity of milk globules; the full-sized globules being fewer, while the mere granules were increased in number. In the milk obtained while the mother was menstruating, the change was much less observable.

"In eight cases the mothers continued to enjoy as good health as is usual during the first three months of pregnancy, when not complicated with lactation; but their children all began to show signs of insufficient nutrition, coupled with more or less disturbance of the stomach and bowels, before the completion of the second month of pregnancy. In two, the children continued well nourished and healthy, but the mothers both became rapidly anemic, and the organic nervous system extremely excitable, as indicated by palpitations of the heart, muscular weakness, and inability to endure even moderate exercise. In the remaining two, both mothers and children continued to enjoy a fair degree of health until the fourth month of pregnancy; but the children drank freely of cow's milk, and sometimes took other nourishment, and the quantity of milk furnished by the mothers was small.

"Of the eight cases of menstruation during lactation, in three both mothers and children continued well; in three others the

mothers continued well, but their children were unusually fretful, and subject to frequent turns of slight diarrhoea; in the remaining two the mothers became affected with erythematic inflammation of the mouth, profuse leucorrhœal discharges after each menstrual period, and much general debility, while the children showed no other signs of ill health than unusual peevishness."

From these facts, the inference is that the child should be weaned when pregnancy or menstruation begins, or supplied with additional food. Which leads Professor Davis to the inquiries, "What proximate and elementary constituents must food contain to render it capable of affording perfect nutrition to the infant? What articles of food contain such constituents? and what state, in relation to fluidity, temperature, &c., is best adapted to the condition of the digestive apparatus in infancy?"

In common with most medical men, Dr. Davis selects cow's milk as furnishing the best substitute for woman's milk. He doubts, however, the existence of any considerable difference in the proportions of the alimentary principles in the two, and thinks the selection of cream much diluted unnecessary and improper.

Woman's milk, on the authority of Simon and West, contains 33 parts of caseine, 24 of butter, and 46 of sugar, in 1,000; cow's milk, 42 of caseine, 28 of butter, and 24 of sugar, in 1,000. A little attention will show that in order to imitate human milk we must reduce both the caseine and the butter, but the caseine especially. We therefore take the top of the milk, in which the relative amount of caseine is diminished; and as the two substances are there positively increased, we must dilute it considerably with water. According to some authorities, "the proportions of the solid constituents of milk differ considerably from the analyses of West and Simon (which are nearly the same); the differences are so great, indeed, that we should prefer making new analyses before laying down exact rules for the preparation of artificial milk. Nevertheless, our experience has led us to a greater dilution of cow's milk than Dr. Davis recommends. It must be remembered that the quality of milk differs very much, and the wants of children vary quite as much; and there can be no unyielding rule.

Dr. Davis found that "fresh human milk gave to litmus a much more decided alkaline reaction than cow's milk; and when allowed to remain in an open vessel, remained entirely fluid and without any indications of sourness for a much longer time. Also, that in most instances in which infants were made to depend on cow's milk for nourishment, and they did not thrive well, the failure seemed to be accompanied by a speedy and excessive generation of acid in the digestive apparatus, indicated either by vomiting of some milk soon after it was taken, or too frequent stools of a curdled appearance and sour smell." He found by experiment, that cow's milk became sour with coagulation of the caseine in 36 hours, while human milk remained perfectly sweet

at the end of 48 hours. Also, that when diluted, the cow's milk underwent fermentation still earlier. Also, that the addition of lime water delayed the fermentation, but the addition of a small portion of chloride of sodium or of bicarbonate of soda delayed it still longer. His strong convictions of the evils of much dilution of milk are reiterated at the close of his report: "From close observation through a series of years, I am satisfied that the excessive dilution of milk, and the use of rice-water, barley-water, bread-water, and such other preparations as require the child to take a large quantity of water to get a small amount of really nutritious matter, greatly favors the prevalence of cholera-infantum and diarrhoea, during all the warm season of the year." We second the condemnation of the vegetable preparations, whatever may be the common error in the preparation of milk.

CAUSES OF MILD STOMATITIS IN INFANTS.—The mucous membrane of the mouth is very irritable, being accustomed only to amniotic liquor in a foetal life, and to milk in the early stage of extra-uterine existence. Every change in the diet, therefore, the bad quality of the maternal or artificial nipples, the use of candy, sucking bags, or alcoholic beverages, coffee, or stimulants of whatever kind, will act as irritants, producing hyperæmia or inflammation in a more or less severe form. It is by no means common to observe very severe forms of stomatitis after all such preceding causes; on the contrary, the large majority of cases, including those depending on primary acute catarrh of the stomach, and the raising of a large quantity of gastric acid, so frequent in infantile age, are very mild.—*Prof. Jacobi.*

GENERAL TREATMENT OF MUGUET.—Pure water is the best prophylactic and curative agent; the only thing worth adding is a small quantity of alkaline substance, chlorate of potassa or soda, carbonate of potassa or soda, biborate of soda or chloride of sodium. The mouth of every infant ought to be washed out after each meal, to be certain that no deposit remains on the mucous membrane. Where such has been the case, the local treatment alluded to is perfectly sufficient. The deposit is found in the superficial layers of the epithelium; it seldom reaches the deeper ones, and scarcely ever implicates the lining membrane itself. Thus cleanliness will remove the affection; the surface sometimes bleeds when the deposit is rubbed off. The addition of sugar, rose-honey, or syrup, to the water (or weak alkaline solution,) must be strictly avoided; these substances will adhere to the lining membrane and themselves undergo decomposition and prove a source of new difficulties.—*Ibid.*

SYPHILIS.—A striking fact is now fully demonstrated, viz., that indurate chancre is never, and soft chancre always inoculable to

the person who bears it. Indurate chancre, moreover, is invariably, as Rollet has abundantly proved, preceded by a more or less protracted incubation. This is not the case in soft chancre. These distinguishing characteristics, combined with the circumstance, now universally admitted by syphiliographers, that each form of chancre arises from the contagion of a sore of a similar description, and cannot be generated by any other, demonstrate, as Mr. Bassereau has shown, the existence of a separate virus for each form. The inoculation of chancre has now therefore a totally different significance from that it formerly implied: when a primary sore is inoculable to the patient himself, he may be safely informed that the disease is purely local, and requires no mercurial treatment; when, on the contrary, inoculation does not succeed in reproducing the chancre, the failure denotes that the constitution of the subject is already contaminated, that secondaries are impending, and that mercury must be exhibited. Thus, to derive an illustration from another description of inoculation, vaccination invariably fails after pure vaccinal pustules have been evolved. With regard to the treatment of chancre, Mr. Guerin chiefly relies on aromatic wine, and prohibits mercurial andunctuous dressings.

"For many years, Mr. Ricord has professed that when once a subject has contracted an indurate chancre, and been affected with secondary symptoms, he enjoys immunity from future infection; that is to say, that any chancres he may be subsequently be so unfortunate as to take by contagion will be soft and therefore produce merely local injuries. In syphilis, however, as in small pox, a second infection, after the poison has been in the course of years eradicated from the system, does not appear impossible.—*H. Chaillou.*

Dr. Bumstead, of New York, has just published a clear treatise on venereal, embracing some original views, to which his large experience will give weight. In this work, which we have just received from the publishers, too late to be particularly noticed in the present number, the subject of syphilization is carefully discussed.

THEORY AND TREATMENT OF GOUT.—The theory of gout, which in the present day most generally obtains favor, is entirely chemical, and therefore Mr. Trousseau holds it somewhat cheap. He acknowledges that an excess of lithates has been detected in gout; but these salts, the formation of which implies an antecedent predisposition, are also met with in entirely different diseases. The lithic diathesis is therefore distinct from the gouty diathesis. or, at least, one more element must be superadded to transmute the former into the latter. For the present, Mr. Trousseau defines gout a specific disorder of entirely unknown nature.

He never institutes any treatment for the first fit of gout, be-

cause in the first place he considers it unsafe to do so, and in the second, because he has always found that after the attack had worn itself out in the space of eight or ten days, the patient arose from his couch in a much more satisfactory state of health than before the invasion of the disease. Mr. Trousseau therefore resolutely declines using any abortive remedy whatever for a first fit of acute gout, which he views as a relatively fortunate occurrence, and the most to be wished for, in the case of a person afflicted with the atonic form of complaint. But in the instance of acute gout recurring every three or four months in a series of paroxysms, the professor acknowledges that if he cannot persuade the patient to bear the pain, and if his refusal to interfere afflicts and discourages the sufferer, he determines upon adopting some form of medication.

Of all the drugs recommended for gout, said Mr. Trousseau, colchicum is that which effects the most unquestionable cures. But the warmest advocates of this drug, if possessed of any medical tact, carefully refrain from prescribing it for the first three or four days of the attack, after which the original intensity of the pain has in some degree subsided. Exhibited in the course of a first paroxysm, it will sometimes utterly extinguish the pain, but in subsequent attacks its action will not become so favorable, and a larger dose will become necessary.

With regard to the secondary effects of colchicum, it is a known fact that after its exhibition, the attacks of gout become rather more frequent.

The chief utility of mineral waters in gout is to improve the gastric functions; as alkalies, they are less beneficial, and their action upon the urates is merely peptic.

It is impossible to lay too much stress on the question of diet. Gout becomes more promptly visceral, in proportion as the appropriate diet and necessary exercise have been neglected. The food of persons exposed to a return of the disease should be in a great measure vegetarian; they must, however, be allowed a certain amount of meat, in order to preserve or acquire the muscular strength necessary to exercise. Mr. Trousseau unceasingly recommends active daily exercise, on foot, or on horse-back, manual labor, and out-of-door life. Exercise, combined with strict attention to diet, is certainly the course best calculated to secure the regular working of the secretions. The mind of the patient must, however, be deeply impressed with the fact, that this prescription is not limited to any given time, but must always in future be attended to; as Sydenham remarks, in chronic disease the entire system has been altered, and to effect a cure, the entire man must be remodelled. (*Championnière's Journal*.)

TYPHOID FEVER.—Of the valuable experience of which we are to enjoy the benefit, through the appointment of a thousand military

surgeons, we are beginning to get returns through their correspondence with medical weeklies. Dr. Shipman, 17th N. Y. V., writes to the *American Medical Times* on the health of the troops of the left wing of the army of the Potomac. In speaking of typhoid fever in the army, he says: "Relapses were extremely frequent, and *nothing contributed so much to them as a cathartic*. The soldiers would clamor for something to 'clear them out,' as they termed it, and would often take epsom salts or bilious pills, which they brought with them, or procured from their comrades, and the result was sure to be a relapse. In those cases where diarrhoea was a prominent symptom, pulvis opii, with hydrargyrum cum cretâ, was generally sufficient to arrest it, yet quinine was indispensable; calomel was rarely prescribed in camp. The liability to relapse, on the seventh or fourteenth day from the date of convalescence, was a marked feature, and was anticipated by five grains of quinine. As a prophylactic, I have great confidence in its efficiency. We had an opportunity, especially among the officers, of testing its powers." Dr. S. had previously stated the fact that bilious remittent fever was the most common form.

"There was one thing that was to me quite a new feature. It was the effect which measles had in rendering them susceptible to attacks of fever for a long time afterwards. While in the Park Barracks, New York, a great many of our men were affected with measles, and were sent to the hospitals. In time they recovered and joined the regiment, apparently in good health, but in the course of the summer these men were attacked without an exception, and their cases proved the most obstinate of any under treatment, and were protracted, and all assumed a typhoid character."

SEA-BATHING IN CATARRHAL DIARRHOEA.—When catarrhal diarrhoea has become a habit of the constitution, and after ceasing for a time, returns under the influence of unimportant causes, sea-bathing is singularly efficacious. Mr. Trousseau has frequently surprised his patients, and even their usual medical advisers, by recommending Caunterets, Bagnères, or Boulogne, as a temporary residence in cases of chronic pulmonary or uterine catarrh. Reflection, however, soon dispelled the astonishment caused by this apparently strange prescription. A sea-bath, not exceeding from two to five minutes in duration, induces reaction of the surface and vascular congestion of the integument, at the expense of the internal organs. The repetition of these baths moreover hardens the skin to the influence of cold. The bather is braced by the impetus of the water, and many persons thus take advantage of a series of sea-baths to acquire a power of resistance which may enable them to struggle against the tendency of pulmonary or uterine catarrh to relapse. In the latter case women certainly have less proneness to irritability of the womb. Intestinal catarrh may legitimately be compared with catarrh of the uterus or of the bronchi, and no

plausible reason can be alleged why it should not be treated in the same manner. Indeed experience has proved to Mr. Trouseau hundreds of times that if, instead of prescribing a season at Plombières, Vichy or Pougues to persons afflicted with chronic diarrhœa, he recommended the cold-water cure, or short sea-baths, a cure was always effected. (*Championnière's Journal.*)

SCARLATINAL ALBUMINURIA TREATED BY QUININE.—Dr. Hamburger premises that in scarlet fever the albumen can be considered neither the result of excessive susceptibility of the skin to cold, &c., nor of any alteration in the mass of the blood allowing of transudation from the vessels, nor indeed as any secondary phenomenon whatever. He attributes it solely to the localization of the virus upon the kidneys, the dropsy being a manifestation or expression of the specific affection, analogous to the primary effect of the virus upon the throat or the skin. As respects the treatment, he inveighs strongly against the use of digitalis, which diminishes the urine and renders it bloody, and increases local effusion; and also against diuretic remedies, even the mildest; and thinks that vinegar, so useful in Bright's disease, as also mineral acids and hot baths, are useless. The remedy which he has found above all others of service is quinine. Under its use the fever diminishes, the urine is rendered more abundant and less bloody, and the appetite and general power increased. The amount of albumen does not, however, diminish. This remedy was used in 47 severe cases; in 44 improvement was at once or very speedily manifested; in 3 cases only was there absence of result, good or bad, but these recovered. When employed in chronic cases, improvement follows the first doses almost immediately—most quickly in adults. In acute cases the quinine must not be at once administered. The dose should be, to infants, from 1 1-4 to 1 1-2 grains a day, and to adults, from 2 1-2 to 3 grains. Its bitterness has alone prevented him from trying it as a prophylactic after the early period of scarlet fever. During the use of the remedy the diet ought to be antiphlogistic, and confined to fluids. (*B. & F. Med. Chir. Review, from Archives Gènèrales de Médecine.*)

Dr. Ware several years ago published an account of the successful treatment of scarlatinal dropsy in a number of cases with large doses of Rhine wine.

RECOVERY FROM DROWNING BY THE AID OF ELECTRICITY.—Dr. Garratt reports in the *Boston Medical and Surgical Journal* the case of a drowned man resuscitated by means of a skilful and thorough application of electricity. The facts are briefly these:—He was a stout sailor, of good habits, who fell headforemost into the water, his head being driven into the soft muddy bottom, where he remained for half an hour, till after repeated attempts he was drawn up. His stomach was emptied by the pump of a large quantity

of water, his clothes removed, friction with hot cloths steadily made, artificial respiration attempted by regular rolling and lifting the arms. The application of electricity was then commenced in earnest, the machine (a magneto-electric machine) being put at work at its greatest power. The current was sent in every direction through the chest for an hour without any perceptible effect.

The positive pole was then applied to the right nipple, and the negative pole to the left, the body lying on the right side, inclining well over towards the face. "Instantly there was perceived a quick, short inspiration, much like a sigh, but, unfortunately, this could not be reproduced." The positive electrode was then placed on the back of the neck, and the negative covered with a small wet sponge was inserted into the left nostril. Dr. Garratt then made and broke contact with his hand, every ten or fifteen seconds, retaining the action of the current longer than the cessation. The patient began to have regular, but infrequent inspirations, and the skin began to grow softer and warmer.

After another half hour's continuance of the current with occasional change of direction, the phenomena of life appeared to flag again, and electro-puncture was resorted to. Four electro-puncture needles, insulated except at their points and four inches long, were inserted two or three inches apart at the lower edge of the pectoral muscles, and plunged downward so as to pass between the fifth and sixth ribs. When the electrodes were brought in contact with the heads of the needles, inspirations followed after an interval of five seconds or so, and the application was continued for an hour—the warm frictions and the rolling being still faithfully performed. "We noticed that, if the electrodes were omitted, the respirations, or sighings as they might be called, failed to appear." Other changes were made in the direction of the current, and "it became evident that life was reassuming dominion in the body." It was not, however, till about four hours from the time the man was taken from the water, that pulsation of the heart could be discovered.

The electric current was not entirely omitted till ten hours from the commencement of its application. At the end of that time, the man became sensible, could speak, see and take nourishment. His recovery was complete, except that his hearing is diminished, and he has roarings in his ears when he lies down.

"Electricity in itself, is not a uniform remedy. It is never a reliable aid or remedy when applied without a method, whether as galvanism (i. e., the primary current), or as Faradaism (i. e., the secondary or induced current). But when skillfully employed, electricity is a reliable and powerful remedy."

HYSTERICAL AMAUROSIS CURED BY THE INJECTION OF BRANDY INTO THE CAVITY OF THE WOMB.—Dr. Lubin related in *Championnière's Journal* the case of a hysterical woman, in whom, in 1859, he

succeeded in allaying excruciating pain by the injection of chloroform into the womb. The same patient, at the beginning of last March, became gradually blind in the course of an evening, without pain. Examination with the ophthalmoscope showed that no anatomical change had taken place in the eyes. Upon the supposition of the blindness being consequent on some cerebral affection, she was treated for a week with leeches, cups, counter-irritants and tartar emetic, without effect.

In recollection of the former experience, it was then thought probable that the amaurosis resulted from hysteria, and that a restoration of the uterine pain might possibly restore her vision. It was decided to inject the uterus with a stimulating liquid, allowing an injection of simply warm water to precede it. Warm water was injected on the first day, without any effect. The next day, equal parts of brandy and water, and immediately pressure of the eye-ball induced for the first time a sensation of light. Encouraged by this circumstance, undiluted brandy was injected on the third day. "Scarcely was the operation concluded, when the uterine pain returned with the same characters it formerly presented, and five minutes after its appearance and the concomitant spasmodic movements, the patient exclaimed: *I can see!* From this time forward, vision improved gradually, and Mrs. X. can now both read and write. No new paroxysm of pain has occurred; but every evening, from seven to nine o'clock, a little wandering and agitation are observed; Mrs. X. then falls asleep, and awakes refreshed and well in the morning."

In connection with this case of amaurosis, our readers will remember the interesting cases reported by Dr. Robinson in the July number of this JOURNAL.

TREATMENT OF ANGULARITY OF THE BONE AFTER FRACTURE, AND ANCHYLOSIS.—"The deformities alluded to are mal-position after union from fracture, and ankylosis; and the method proposed consists in weakening the bone by subcutaneous partial division, so as to allow it to fracture more readily, or to bend by gradual pressure after the tissue of the bone shall have become softened by the effect of the wound.

"The first case in which it was resorted to, was that of a boy three years old, who had received a fracture of both bones of the leg when an infant, on whom I operated May 15, 1858.

"The deformity was so great as to render the member quite useless. The callus at the point of fracture of the tibia was perforated in two different directions, with an instrument the point of which was one-fourth of an inch in breadth. Efforts were then made to fracture the bone, but without success, and the patient was left ten days at rest, with cold water applied at times, until the inflammation produced by the operation and efforts at fracture had subsided. Gradual pressure was then applied by means of a

straight splint with a foot-piece, applied behind the leg, and a roller passed round the most projecting point of the angularity. In four weeks the member was quite straight, except a projection not considerable, resulting from the overlapping of the fragments. In eight weeks the boy was able to walk with a useful member.

"The second case occurred in the practice of Prof. Paul F. Eve. The fracture was of six years' date, of the tibia and fibula, in a boy ten years old. "Placed under chloroform and ether, the tibia and fibula were several times perforated with a brad-awl through one opening made in the skin, and the bones re-fractured by the hands. The larger bone yielded readily, but the smaller one was not sufficiently divided. * * * * Owing to the severity of the operation, and the free use of anæsthetic agents, we desisted for the time. Ten days afterwards the fibula was again attacked with the awl, and the limb brought perfectly straight. It was now placed in a fracture box, extension and counter-extension maintained as usual, and a weight—a pound of shot in a bag—retained over the point where the fracture existed." I afterwards learned from Prof. Eve that his patient recovered with a straight leg.

"The third case was by Prof. Pancoast. It was one of ankylosis of the knee, in which extension had been tried. The operation is thus described in the clinical report:—"It is proposed to-day to bore holes in the bone from one external orifice in the soft parts above the knee, where the bone is least covered, and after having thus weakened the part sufficiently, to break the bone either across the knee or by apparatus." "From a single external orifice half a dozen holes were bored through the bone, and after several efforts to break the bone, it was fractured with a loud crack." The instrument employed was a gimlet, and Dr. Pancoast remarked that the operation was dangerous, but less so than that of cutting out a V-shaped piece, which is "extremely hazardous."

The result was very good: "the boy's foot came well to the ground (says Dr. Pancoast), and the limb was almost as straight as is desirable in these cases where the knee joint is stiff." (From Prof. D. Brainard's *Report on Surgery to the Illinois State Medical Society*.)

INJURIES OF THE HEAD IN CHILDREN.—One of the most common consequences of falls upon the head is the contusion of the external soft parts and the subsequent formation of bumps, or hæmatomic tumors, which vary according to the more or less oblique or perpendicular direction of the force acting on the skull. In the latter case, the protuberance is hard and solid, and blood has been extravasated into the subcutaneous structures. In the former instance, on the contrary, the blood is collected, the tumor is soft and fluctuating in its centre, and the margin is occupied by an indurated, prominent ring, surrounding an apparent depression of the bone. The same hard ridge is observed in cephalhematoma.

which is but a sanguineous swelling, congenital or developed a few minutes after birth. To avoid an error, which, however, cannot be very easily fallen into, the centre of the tumor should be pressed with the finger; it yields readily, and the surface of the bones, unaltered in shape, may be discerned beneath. When, on the contrary, a portion of bone is really depressed, instead of the regularity and firmness of the osseous surface, palpation detects sharp edges, and sometimes displaces loose fragments.

The treatment of hæmatic tumors of the head, when they present no fluctuation, is well known; they invariably yield to resolute applications, with or without simultaneous pressure. Those in which fluctuation exists, have naturally excited more attention. Some surgeons recommend liberal incision for the purpose of obviating inflammation and the adhesion of the coagulated blood to the integument. Boyer and other, on the contrary, are of opinion that the operation should be delayed until no further hope of spontaneous resolution can be entertained. Boyer, it is true, adds that he has seen very considerable soft tumors of this kind, for which incision was at first proposed, at last disappear slowly without any surgical interference. This favorable termination is of frequent occurrence, and will always be observed if the practitioner will but exercise sufficient patience. This very year, a child was admitted into Mr. Marjolin's wards, after a fall from the third story of a house. The accident had induced on the head the formation of a hæmatic tumor of the size of the closed hand; fluctuation was evident. Mr. Marjolin wisely postponed any operation, and merely prescribed the application of compresses impregnated with the tincture of arnica. The tumor soon collapsed; the skin, at first black, became yellow, and in a few weeks the extravasated blood was absorbed and the peripheric induration disappeared.

Hence, we cannot approve of the incision of such tumors, or of the practice of Messrs. Giralès and Voillemier, who, in order to avoid the penetration of air into the cavity, recommend the evacuation of its contents with a capillary trochar. Puncture with a trochar or a lancet does not seem to Mr. Marjolin, in any respect, a justifiable measure. He considers it far wiser to wait, because, in case of an error in the diagnosis, the patient is not exposed to any risk. Not to mention cerebral hernia, which presents some resemblance to pulsating hæmatic tumors, and which it would be dangerous to cut open, it sometimes happens that a small artery, lacerated in a contusion, continues to bleed after the tumor has been incised. (*Championnière's Journal*.)

The cases above described are sufficiently common to have been seen by all practitioners. We would add our testimony to that of Mr. Marjolin in favor of pressure. In cephalhæmatoma, in effusions of blood under the scalp—the result of contusions, and in ~~subcutaneous~~ effusions of blood from similar causes in some other

parts of the body, (as over the shin), we have never failed, as far as we can recollect, to produce complete absorption by continued pressure. It has been maintained with a dry compress in cases not attended with inflammation, and absorption has soon begun and gone on with rapidity.

DANGEROUS COSMETICS.—At a recent sitting of the French Academy of Medicine, Dr. Reveil read a paper "On the Necessity of Preventing Perfumers from Selling Poisonous or Dangerous Articles," which should be exclusively left to the responsibility of regular chemists, and not sold without a physician's prescription. "To show the danger there is in allowing the unchecked sale of certain compounds," he said, "I need but state that arsenic, the acid nitrate of mercury, tartar emetic, cantharides, colchicum, and potassa caustica form part of their ingredients. The kind of soap called lettuce soap, which is sold with the announcement that it has been acknowledged by the Academy, does not contain the slightest trace of lettuce. This and other soaps are colored green by the sesquioxide of chromium, or of a rose color by the bi-sulphuret of mercury, known as vermilion. Some which are cheaper contain 30 per cent. of insoluble matter, such as lime or plaster, while others contain animal nitrogenous matter which, having escaped the process of saponification, emits a bad smell when its solution is left exposed to the air. The various toilet vinegars are so far noxious that, being applied to the skin still impregnated with soap and water, they give rise to a decomposition, in consequence of which the fatty acids of soaps, being insoluble in water, are not removed by washing, become rancid, and cause a chronic inflammation of the skin. The preparations employed for hair-dye under the pompous names of 'African water,' 'Florida water,' etc., all contain nitrate of silver, sulphur, oxide and acetate of lead, sulphate of copper, and other noxious substances. All cosmetics for removing hairs or freckles are dangerous; the *lait antéphélique*, for instance, contains corrosive sublimate and oxyd of lead. Were a chemist to deliver such a remedy to a customer without a regular prescription, he would be liable to a fine of 6,000f." Dr. Reveil concluded by expressing his regret that certain physicians should so far forget their own dignity as to lend the support of their names to such noxious inventions. (*Galvani's Messenger*.)

EDITORIAL.

We people of the North are eating some of the good fruits of our system of universal education, in the superior physical condition of our volunteers. For while we learn from numerous private letters in Southern newspapers, that the rebel army in Virginia is seriously crippled by disease, all the accounts, by letters and hospital reports from our own army on the Potomac, indicate hardly any more sickness than the same number of men would have suffered at home.

We are inclined to think that a large proportion of the sickness that does exist in that department is owing to the unwholesome situation in which a few regiments are, perhaps necessarily, encamped—on low grounds near the river, undrained, and under malarious influence. Such exposure, however, can only exist to a limited extent; for the greater part of the army is stationed on high ground, and free from the peculiar dangers of that vicinity.

Thus removed from the inevitable perils that belong to the latitude, they are freed from other especial liability to sickness by the rigid discipline of General McClellan, by the wise suggestions of the Sanitary Commission, and by the amount of hygienic knowledge which a large proportion of our troops possess. It is not a small thing for an army to be composed of men who have learned how to take proper care of themselves in their new circumstances. We have no doubt that we should still find room for great improvement in the camps even of New England men; that regiments are sometimes encamped in situations totally unfit for men to live in, and that other offences against health are constantly committed. But it is evident that these errors are exceptional. There is in all the Northern States, in various degrees, a more enlightened attention to the laws of health, than is possible among the ignorant people that form the rank and file of the rebel army. Our privates are often men whose social position and education are as good as those of any of their officers; and if not, there are few who do not understand pretty well how health and life are best preserved.

In the thousand surgeons of the volunteers, there are enough men of wisdom and energy to influence their corps throughout the army, to the prevention of any very great abuses; and where the medical staff is negligent or deficient, the Sanitary Commission is on hand to apply the remedy. Thus we appear to be escaping the sad experience which many looked forward to in this summer

campaign; and the pestilences which Southerners anticipated to decimate our ranks and cripple our enterprizes have remained with them.

For all this, we must thank the ardent philanthropists who originated the idea of the Sanitary Commission, we must thank Florence Nightingale, the most original woman, as she is the greatest benefactor, of this generation—we must thank God for the spirit of enterprize and self-culture which he has given us.

The superior condition of the Northern men is no new thing. The *New York Evening Post* published several months ago an account of the losses of the several States, North and South, in the Mexican war, from a Report of the Secretary of War in 1848. From this, it appears that Massachusetts, New York, New Jersey, Pennsylvania, Ohio, Indiana and Illinois furnished in the course of that war 22,573 men. Of this force the total loss by disease was 2,931 men—less than one-eighth of the whole. Virginia, North and South Carolina, Georgia, Alabama, Mississippi, Louisiana, Tennessee and Kentucky furnished 22,899 men. The loss from this force by disease was 4,315 men, or more than one-fifth.

If there is any advantage in acclimatization, the Southern men have it. To what can results so very much in our favor be attributed, but to superior discipline—in which we include all the daily habits and regulations which relate to hygiene—the natural consequence of superior education. Our men have learned, or are daily learning, that their domestic (camp) economy cannot safely be left to chance. They not only know the benefit of woollen clothing, wholesome and well-cooked food, a dry bed, and an airy tent, but, still better, they find themselves under a government disposed to secure them these necessities.

FREQUENCY OF VARICOCELE.

In the examination of recruits for the federal army, we have lately met with a number of cases of varicocele, and in not a single instance had it been discovered previously, or been attended with pain or any other sensation. Medical men so rarely have occasion to examine persons who are in perfect health, and the various recruiting stations just now offer so extensive an opportunity, that we wish the results of such examinations might be made available by the record of the few data which are afforded—which, although trivial at any one station, yet when collated would doubtless supply some items worthy of publication. Our own experience is thus far limited, but there are many stations that receive a large number of recruits. Of fifteen men whom we have examined, five had varicocele, always on the left side. Special inquiry was made in nearly every case, and in none of them was there constipation or any pathological cause discoverable. Vari-

cocele is well known to be more common on the left than on the right side, and attributed by some authorities to constipation, by others to the anatomical peculiarity of the left spermatic vein, which empties at a right angle into the left renal vein, while the right spermatic empties into the ascending cava considerably lower down. The manner of its union with the renal vein—at right angles with the current—may explain the greater liability to the production of varix on that side; but there should be some other reason for its occurrence at all. Our inquiries did not extend any further, and we have no facts on the subject of the general causes of varicocele which are satisfactory. The recruits we examined were all unmarried men, between eighteen and twenty-two years of age.

We have not given any notice of the several volumes of Transactions of Medical Societies, which have been received this month. But our readers will perceive that we have made liberal extracts from several of the papers published in the Transactions of the Illinois Medical Society. The volume is above the average quality of State Society Transactions, and contains among its best papers a Report on Affections of the Female Breast, by Prof. Byford of Chicago, a Report on Surgery, by Prof. Brainard, Dr. David Prince and Dr. Edwin Powell, and a Report on the Food most proper for Infants, by Prof. N. S. Davis. The Transactions of the New Hampshire Medical Society have already been noticed in our pages.

THE SANITARY COMMISSION.

The Sanitary Commission, after a careful examination of camps in every department of the army, so as to ascertain the most serious deficiencies in the sanitary arrangements, set themselves regularly at work to remedy them. 1. By reporting the results of their investigation to the War Department. 2. By organizing a department at Washington, to carry into operation all the reformatory measures that come within their power and authority.

It is well known that the Commission was created as an Advisory Board, having no legal authority, and that the payment of its expenses was not provided for by government. Nevertheless, the Commission has appointed Frederic Law Olmsted its Secretary at Washington, to have the general management of its affairs, and Drs. J. T. Newberry, J. Douglas and J. Foster Jenkins, Assistant Secretaries, stationed in the other departments. It has established hospital departments at the several headquarters. The department at Washington is under the charge of Mr. Frederic L. Knapp, of New Hampshire. And all these Secretaries and Inspectors and Hospital departments are sustained by funds raised by private subscription.

The duties of the Secretaries consist in a general oversight of the hygienic condition of the various camps and armies, for which they have the authority and encouragement of the government. They have no right to interfere in hospital or camp management, but are at liberty to examine and advise. Another duty of exceedingly great importance is that which in Washington is discharged by Mr. Knapp, the inspector. It is to look after the sick and exhausted of newly arrived regiments, before they have gone into camp and made and made their hospital arrangements. There are hours, and sometimes days, when the sick would suffer extremely for the want of care and attention during the confusion of going into camp in a strange country. The inspector is always at the Railway Station when the trains arrive, and by permission of the regimental surgeon, usually given with gratitude for the aid, he ministers at once to the wants of the sick, and transports them to his temporary hospital. There, rest, nutritious food and tender nursing, restore them in a few hours or days to health and serviceable condition, and they join their regiment. It is easy to see the real service done by this action of the commission, in thus stepping in to fill the gap unavoidably left by the routine of war. We have no doubt that valuable lives are saved, we know that suffering is diminished, and that wives and mothers all over the land bless the Sanitary Commission. The work of the inspector does not stop here. He looks after men who are discharged from the Hospitals unfit for service, and finding them often without a friend to attend to necessary arrangements for a passage home, he becomes their friend; looks after their pay, takes care of their property, ascertains their necessary route, buys them tickets, and sees them comfortably established in the cars.

We presume that similar arrangements are made or making at the other headquarters. The assistant secretaries, all gentlemen well qualified for their duties and much interested in the objects of the Commission, are posted as follows:—

Dr. Newberry, in the departments of Fremont, Anderson, and Rosencranz. He will establish hospital depôts at Wheeling (in charge of C. D. Griswold, M. D.,) at Cincinnati (in charge of W. H. Mussey, M. D.,) and at Quincy, Illinois. His post-office address is Cleveland, Ohio.

Dr. Douglas has been placed over the columns of Banks and Dix. Hospital depôts at Baltimore and Frederic City. Post-office address, Baltimore, Md.

Dr. Jenkins is attached to the columns under the immediate command of McClellan and Wool, with the hospital depôts at Washington and Fortress Monroe. Post-office address, Washington, D. C.

PARTING WORD TO HOMŒOPATHY.

The rats desert a sinking ship. Four homœopathists—Dr. Pe-

ters, of New York, a prominent man among them, leading the way—have formally and publicly renounced their system, and Dr. Peters declares that he had always found some of its tenets impossible to receive, and that his doubts of the existence of any ground for such a system of medicine had long since ripened into conviction. His recantation is contained in a long letter to the *American Medical Times*.

That homœopathy has been so much more widely extended than other quackeries, has been due to the ingenuity and shrewdness of its author, who addressed himself to the frequent tendency to belief in the impossible, and the readiness of the sick to accept a pleasant relief from nauseous medication. Its disciples, after adopting a name for themselves, had the impudence to give a new name to scientific medical men, and describe the two classes as rival sects in medicine. Sects in science! As the *London Lancet* has lately observed, we might as well talk of sects in engineering, in law or in astronomy.

Homœopathy has been nothing more than little-pill peddling. No discovery in medical science has ever originated with a homœopathist. They have been blind owners of a lucky-stone, which has finally lost its necromantic virtues in their hands. And whilst those of them who never had any other view of it than as a matter of profitable trade, are shuffling the cards to keep the play in their hands as long as possible, the educated, credulous men, with some real desire for truth and a conscience—such as Dr. Peters—are confessing their errors and abjuring their associations.

No single medical practitioner is of sufficient consequence to the myriads of the profession in the United States, to require that medical journalists should necessarily be aware of his relations to the medical profession in his own vicinity. And having the fullest confidence in the *esprit du corps* of the *American Medical Times*, we are sure that it is from pure ignorance of the professional standing of Dr. Ignatius Langer, of Davenport, Iowa, that that Journal admits a communication from him into its columns. Circumstances called our attention particularly to the history of this gentleman at the time of his expulsion from the Medical Society of his county two years ago, and the consequent refusal of the American Medical Association to admit him to a seat at its last meeting. Had it been otherwise, we should not have now bring the matter to the notice of the *Times*, nor should we have called another cotemporary to account for the same thing some time since—but have left the Medical Society of Scott County, Iowa, to vindicate their own honor. But the facts coming to our notice, and having apparently escaped that of the *Times*, we feel bound to speak again in behalf of the distant Society. We believe that every honorable medical organization has a right to

reckon on the support of medical journals, at least to the extent of sustaining its legal acts for the discountenancing of quackery.

TO SUBSCRIBERS.

The November and December numbers of the JOURNAL will be published in one, about the first of December. This arrangement is made for the convenience of the editors, at this very busy period, and to enable us to present to our readers a more acceptable number than otherwise. We trust the change will be satisfactory to them.

All communications for that number should be sent in before the fifth of November.

The duties of the Lecture term have unavoidably delayed us in the publication of the present number, for which we must ask the kind consideration of our readers.

MEDICAL NEWS AND MISCELLANY.

BERKSHIRE MEDICAL COLLEGE.—The exercises of graduation in this institution will take place on Tuesday, November 19th, in the Chemical Hall. The reading and defence of theses at 10 A. M. The address to the graduates will be delivered by Prof. Paul A. Chadbourne, M. D., of Williams College, at 11 o'clock. All who are interested, whether of the medical profession or not, are invited to attend.

DEATH OF PROF. IVES.—Eli Ives, M. D., of New Haven, Emeritus Professor of Materia Medica in Yale College, President of the American Medical Association, died at his residence, on the 8th inst., at the advanced age of 84.

THERE is a wide-spread error in the popular mind, which I will not pass by in this connection. It is this: Whenever members of the medical profession ask the community or the Legislature to allow post-mortem examinations, or legalize dissecting, or to enact laws for the protection of members of society against knavish empiricism and reckless ignorance, the idea is at once entertained that these things are asked for to accommodate and benefit the profession, and not the community. Nothing could be further from the truth. For, delving for knowledge into the offensive and decaying structures of a lifeless body is not a pleasant *pastime* for the physician, nor are his pecuniary interests increased in proportion to his acquisition of knowledge. On the contrary, it is quite probable that medical men, even in the dark days of the world's history, were better rewarded for their services, however worthless they might have

been, than they are now in the most enlightened portions of christendom. No, fellow-citizens! it is you and not the profession that reap the benefits of every advancement made in any department of medical science. (*Extract from a popular Lecture before the Illinois State Medical Society and the Citizens of Paris, Illinois*; by Prof. N. S. Davis, M. D.)

HEALTH OF THE LEFT WING OF THE ARMY ON THE POTOMAC.—There have been but few deaths thus far. Those camps that are situated on the low ground adjoining the river or inlets are more affected than others. There is no doubt that the origin of fever here is malaria. Cleanliness in and about the camps has a wonderful effect in preventing sickness, and where the police is the most rigid there you find the least sickness. (*Correspondence of the Times.*)

GUNSHOT WOUNDS.—The foreign bodies in gunshot wounds are chiefly bullets, slugs, pieces of iron, copper, wood, bone, stones, dirt, and pieces of clothing driven before the ball. Examine, therefore, each wound carefully, but do not probe unnecessarily. Introduce your finger—it is sensitive, and will tell you the nature of the body. If the wound is too small, use a silver or gold probe, with a little ball at the end of it; you can in this way gain some information by the sound communicated and the impression made. If the bone is bare, it will grate upon it; if a ball, you can feel its rounded form, but you cannot distinguish cloth from flesh, unless you use your finger; if an important vessel is exposed, the finger will detect the pulsation. (*Medical and Surgical Reporter.*)

IRON SUTURES.—Mr. Ollicr, in a paper read to the French Society of Surgery, on Metallic Sutures, gives preference to iron wire for this purpose. Annealed wire, he says, becomes covered after a time with a thin layer of oxide, but it adheres so closely to the metal, as to exercise no injurious effects upon wounds. The finest wire is also that which is borne with most ease, and Mr. Ollicr resorts to it whenever the edges of a wound can readily be brought into contact with each other. He recounts the several advantages which metallic sutures have over thread or silk—the chief of which are that they cannot absorb fluids to putrefy and irritate, and that they maintain their support of the parts better, since they do not change their shape when the tissues begin to divide beneath them.

SURGICAL INSTRUMENTS IN THE INTERNATIONAL EXHIBITION OF 1882.—The Committee on Surgical Instruments announce that “they are prepared to receive and consider applications for space, and otherwise co-operate with and facilitate the views of intending exhibitors. The action of the Committee extends not merely to the advantageous exhibition of the ordinary trade productions comprehended under the head ‘Surgical Instruments,’ but also of apparatus, appliances, and inventions of every description having relation to the science of Medicine, or employed in the investigation and treatment of disease. The Committee trust that in the interest of the branch of industry they represent, the medical journals will be good enough to give as extended a publicity to their intentions as possible.”

SUBSTITUTES FOR COD-LIVER OIL.—Twenty years ago, fish-oils were considered the only possible substitutes. Mr. F. Dubois has since ascertained, by numerous experiments, that in rickets and caries of the bones, vegetable oils, and especially poppy oil, sometimes prove as efficient as cod-liver oil itself.

The iodine contained in the cod-liver oil does not appear to have any share in its remedial action; it is simply a fatty substance favorable to nutrition.

MINERAL WATERS are growing in favor in France. Like other remedial agencies, they are subject to the fluctuations of fashion. Medical men of repute, like Durand-Fardel, Hedouin, and others, appear as the exhibitors of the excellencies of various favorite spas. The government, recognizing the importance of some of the most celebrated baths, has become their purchaser—as in the case of the spas of Luxeuil. Luxeuil possesses no less than eleven hot springs, varying in temperature from 90° to 130° Fahr.; one saponaceous and two ferruginous spas.

MEASLES, which has prevailed epidemically throughout a great part of the United States within the last five months, has also visited severely some parts of Europe. During the months of March and April, an extremely violent epidemic of measles prevailed in Strasburg. Its fatality was chiefly due to its complications: pneumonia and capillary bronchitis.

BOOKS RECEIVED FOR REVIEW.—Transactions of the New Hampshire Medical Society (Seventy-First Anniversary), held at Concord, June 4 and 5, 1861. Transactions of the State Medical Society of Indiana, at its Twelfth Annual Session, held in the city of Indianapolis, May 21 and 22, 1861. Tenth Annual Meeting of the Illinois State Medical Society, held in Paris, May 8 and 9, 1860. The Pathology and Treatment of Venereal Diseases: Including the Results of Recent Investigations upon the Subject. By Freeman J. Bumstead, M. D. Philadelphia: Blanchard & Lea—1861. A Treatise on Diseases of the Joints. By Richard Barwell, F. R. C. S. Philadelphia: Blanchard & Lea—1861. Medical Jurisprudence. By Alfred Swaine Taylor, M. D., F. R. S., etc. New Edition. Philadelphia: Blanchard & Lea—1861. (The last three volumes, from the Publishers.) Physician's visiting List for 1862. Lindsay & Blakiston. Wythe's Pocket Dose Book, Lindsay & Blakiston, 1861.

JOURNALS RECEIVED IN EXCHANGE.—Boston Medical and Surgical Journal. American Medical Monthly. American Medical Times. Medical and Surgical Reporter. St. Louis Medical and Surgical Journal. Chicago Medical Examiner. American Druggists' Circular and Chemical Gazette. Cincinnati Lancet and Observer. American Journal of the Medical Sciences. Buffalo Medical Journal and Reporter.

THE
BERKSHIRE MEDICAL JOURNAL,

EDITED BY

WM. HENRY THAYER, M. D., AND R. CRESSON STILES, M. D.

"Ore trahit quodcunque potest atque addit acervo."

VOL. I.

NOV. AND DEC., 1861.

NOS. 11 & 12.

PROCEEDINGS OF SOCIETIES.

MASSACHUSETTS.

BERKSHIRE DISTRICT MEDICAL SOCIETY.

The Berkshire District Medical Society met in the Chemical Hall of the College, Pittsfield, on Wednesday, October 23d. The meeting was unusually thin, probably owing to the state of the weather.

Members Present.—H. H. Childs, Brewster, Miller, Cady, Lucas, Meacham, Duncan, Pratt, Seymour and Thayer.

In the absence of the President, Vice President and Secretary, Dr. H. H. Childs was chosen Chairman, and Dr. W. H. Thayer Secretary *pro tem*.

Dr. Brewster referred to his former observation (at the March meeting), that he had always found the amniotic fluid colder than blood, to the extent of being able, as he thought, to distinguish one from the other when they flowed over his hand during parturition.

He had lately had an opportunity to ascertain the temperature of the serous fluid in ascites. Having occasion to perform paracentesis abdominis upon a man, 40 years of age, a high-liver, the subject of cirrhosis, who had been tapped five times before within a year, he let the fluid run directly from the canula over the bulb

of a thermometer, when the mercury rose to 100° and remained

there. Immediately before the operation it had been placed under his tongue, and there indicated 98°. Twenty-four pounds of fluid were evacuated. The patient's general condition was very fair—his functions little disturbed, his bowels regular, and he not confined to the house. Dr. B. wished to present this as one fact, with the hope of inciting the society to a general examination of the temperature of fluids in the body, but out of the circulation. He had examined its temperature, expecting to find it below that of the blood, and the result was therefore unexpected.

Dr. Seymour is in the habit of recognising a difference between the liquor amnii and blood, in the impression received by his hand—whether from the greater viscosity of blood or from a difference in the temperature of the two he cannot certainly say, but has been always under the impression that the blood felt warmer than the liquor amnii, and in repeated instances has diagnosticated flooding from the sensation alone.

In regard to the fluid of ascites in the case related, he suggested that perhaps the temperature at the heart was more nearly represented by that of the fluid in the abdomen in this case than by the mouth. That the temperature at different points probably did not bear a fixed relation in all persons and at all times to the general circulation. Every practitioner recognises variations of temperature in the generative organs in the course of the same labor, under varying conditions of excitement at different stages.

Dr. Lucas reported that the typhoid fever in his practice this season is of mild type.

He has seen perhaps fifty or sixty cases of diphtheria since September, 1860, when he had his first cases. The epidemic continued for several months, and then he saw no more cases until September of this year. Of the cases under his care within the last two months, nine were in persons who had been attacked in the first epidemic. In one of the nine it was fatal, after general dropsy. The angina lasted seven days—the exudation had then disappeared from the throat, when the dropsical affection immediately began, with scanty urine, and death followed in two weeks more, after general anasarca, and effusion into all the serous cavities. Death seemed immediately produced by the amount of pleural effusion.

His fatal cases have usually died in a typhoid state, without any laryngeal obstruction. He employs tincture of iodine as a topical application. The epidemic in eastern New York was reported at the last meeting as following the valleys; most of his cases (at Chester Factories) have been on the hills.

Dr. Cady reported attendance on a number of cases of diphtheria during the present month. They have been of a very malignant character, with false membrane over very extensive surface, and running into the posterior nares in every case, and in some down into the œsophagus. Has found the exudation separating

early and capable of being detached with ease, which has not been the case in his previous experience, leaving the subjacent mucous membrane red and pointed like a strawberry. Several of his cases have exhibited a slight rash about the neck and the flexures of the limbs. His cases have been in the valley. He employs nutritious and stimulating measures from an early period.

Dr. Thayer said that the history of diphtheria presented so great a variety in the character of its symptoms, its general type and its manner of prevalence, that the experience of many persons and places was needed to complete it. As one specimen, he stated that in Keene there had been no case of diphtheria through the last spring: but in June ten cases occurred in one neighborhood, in five families, in the practice of one physician. Three were fatal. There were no others in town at the time, and there was nothing in the locality, circumstances or habits of any of these persons, to render them especially liable to be attacked. They were all members of families in good circumstances, living on distinct estates, the nearest houses being ten rods apart, and nothing discoverable in regard to any of them that contravened correct hygienic rules. Three weeks elapsed without any other case of diphtheria: since then there had been several cases, in the practice of three or four physicians, in as many different quarters of the town, generally not more than one in a place, and the different houses far apart, of which cases several had proved fatal. Probably there had not been more than ten more cases in all.

He remarked that, since the opinions which he had expressed a year ago on the subject of topical treatment, he had found tincture of the sesquichloride of iron more effectual for this purpose in most cases than the nitrate of silver, and from all the reports on the subject during the year, he inferred that the use of the tincture of the sesquichloride of iron, or of the tincture of iodine, or of the bromide of potassium, was generally preferred to the solution of the nitrate of silver, by those who had had the best opportunity to judge of their effects.

He had found some physicians who had no faith that any benefit was derived from local applications, and consequently omitted them entirely. But without considering the local application capable by itself of controlling the disease, there was the fullest evidence that it was a very effectual adjuvant to the constitutional treatment. His own experience had satisfied him on this point, and it was fully sustained by numerous authorities, indeed by all those who have written from personal experience upon the subject.

He brushes the exudation membrane and the whole reddened surface twice a day with the tincture, sometimes slightly diluted, until the inflammatory condition begins to exhibit a constant abatement, after which its use is gradually suspended. The effect on the exudation is often very marked, and the increase of inflammation is less rapid, and convalescence earlier, than when the local affection is let alone.

Such a result is perfectly consistent with the history of other general diseases with local manifestations. It is so with variola, whose severity it abated by applications that will produce abortion of the pustules; it is eminently so with boils, which often increase in number in arithmetical ratio if allowed to run through their course unmolested by local measures; but if actively attacked by stimulating applications on their very first appearance, grow less and less numerous, and soon cease entirely. In the case of diphtheria, as in boils, there can be no doubt that to leave the local disease to run its course unmolested except through constitutional influences, is to allow the steady generation of a poison which, having arisen from constitutional causes, reacts upon the system. The only way is to destroy it and stimulate the parts to healthy action by chlorine applications, even hydrochloric acid—one of the medicines early used for the purpose by Trousseau—or the tincture of the sesquichloride of iron, or by the tincture of iodine or the nitrate of silver.

Dr. Thayer read a paper on the effects of the warm bath in asphyxia, for the purpose of substantiating by some recent experiments the positions assumed in his communication to the Society at its February meeting.

He expressed his regret that what might perhaps be the final discussion of this subject (so far as this Society is concerned) should be held in the absence of *Dr. Stiles*. He had, however, recently presented to *Dr. Stiles* the substance of the present paper, and that gentleman had undertaken to make a new series of experiments at the New York College of Physicians and Surgeons, and forward his results in season for publication in the *Berkshire Medical Journal*, since they would be too late for the Society. Both felt a deep interest in the final solution of a very important practical question, on which opinion has been divided from deficiencies in the experiments and inaccuracy in observation, and deemed this a fitting time to secure and bring forward sufficient evidence to establish a uniform plan of procedure on well-understood principles.

Dr. Seymour stated that he had met with an unusual number of cases of strumous vaginitis in young children this year, and that *Dr. Brinsmade* of Troy had had a similar experience. They did not differ from cases that he had occasionally seen in children of poor condition and scrofulous habit. There was a muco-purulent discharge from the vagina, with more or less swelling of the labia in some cases, and the general condition of the child was always poor. With washes for cleanliness, and lead-water for local application, his chief reliance had been on a general tonic treatment. The inflammation yielded to the steady employment of quinine.

Dr. Duncan read a paper on *Hydrargyrum cum Creta*, including its history and mode of preparation, and the causes and manner of its decomposition.

The Society dined with *Dr. Brewster*, at the Berkshire Hotel.

ORIGINAL COMMUNICATIONS.

ART. XXXII.—*Historical and Analytical Report on Hydrargyrum Cum Cretâ*. Read to the Berkshire District Medical Society. By SAMUEL DUNCAN, M. D., of Williamstown.

Hydrargyrum cum Cretâ, mercury with chalk, and grey powder, are the names by which this preparation is known to the profession.

It is prepared by triturating together three ounces of pure metallic mercury with five ounces of prepared chalk, until the mercury is completely extinguished, by a mechanical division of its particles.

Of one of these substances, chalk, I might remark in passing, that it is a compound body, made up of one equivalent of the protoxide of calcium, with one equivalent of carbonic acid. This substance has given a name to one of the geological systems, the cretaceous, the highest in the secondary formation, and terminating the Kanozoic period of extinct organic life. According to the researches of Ehrenberg, it is almost entirely made up of the shells and skeletons of microscopic animals. No chalk has yet been discovered on this continent.

The other component, mercury, demands an especial consideration. The familiarity of the profession with it, renders a repetition of its physical characteristics unnecessary. Between the chemistry and the pharmacopeia, there is a confusion in the terms applied to mercury and its compounds, which is quite perplexing to student and physician.

For instance, before chemistry ranked as a science, names were invented for its known preparations without any reference to their composition, such as calomel, turpeth-mineral, ethiops-mineral, white preeipitate, &c. ; but when our knowledge of chemistry had been augmented by the discovery of equivalents, names were then substituted by the chemist which were intended to convey a distinct idea of chemical composition.

The equivalent of mercury was assigned at 200, and this is still retained by our Dispensatory ; and as mercury was found to unite with oxygen in two proportions, forming two oxides, the name of protoxide, was given to one, with the formula of Hg O , and bin-oxide to the other, with the formula of $\text{Hg}^2 \text{O}$; and the prefixes *proto* and *bin* were used to distinguish the salts of the oxides.

Thus calomel was found to be the protochloride of mercury, and corrosive sublimate, the bichloride, names still used by a majority of the profession.

Later chemical researches however, have proven that 100, and not 200, is the combining number; and this gives the lowest oxide, the formula of Hg_2O , which is consequently a suboxide; while the highest oxide, has the formula HgO , and is therefore only a protoxide.

The salts of the oxides, thus named, take on their prefix of *sub* and *proto* and thus calomel becomes the subchloride, and corrosive sublimate, the protochloride of mercury.

As this change in the nomenclature might lead to dangerous errors in practice by substituting a highly poisonous compound, for one comparatively innocent, I have thought proper to call the attention of the Society to this fact, at the expense of digression.

Mercury is ranked among the noble metals, because it remains bright in the air and water, and when oxidized by other means, the oxides may be again resolved, merely by heat, into metal and oxygen. (Stöckhardt.)

This statement is hardly true of mercury in its absolute state; but as it occurs in commerce, it often contains foreign metals, such as lead, tin, bismuth and zinc, the smallest portion of these, even the one ten thousandth, according to Millon, raises its boiling point. I mention this, to show its exceeding susceptibility to foreign influences.

As it is usually found in the shops, instead of presenting a mirror-like reflection, the surface is covered with a thin delicate film of a grey color, which imparts to the mercury a tarnished appearance; this film is the suboxide of mercury, with the formula of Hg_2O . Even absolute mercury is partially oxidized if exposed to the contact of air in a minutely divided state. The experiment is easily performed. Put a small quantity of mercury in a long phial, cork tight, then shake violently for a short time, and the characteristic film of suboxide will be seen. To prevent error, the phial, and cork, should be perfectly clean. Now time and exposure, produce precisely the same effect; the metal, however pure, absorbs a small quantity of oxygen, which unites with it in the proportion of 8 to 200.

In order to ascertain that the pellicle contains suboxide of mercury, it suffices to distil a certain quantity of it, in a current of nitrogen, when it deposits a residuum of the red oxide, known as red precipitate, with the formula of HgO : consequently the protoxide. (Regnaut).

The suboxide, however formed, is a very unstable compound; at ordinary temperatures, and under the influence of light, it undergoes decomposition, and a portion is resolved into metallic mercury, and the remainder passes to the next higher oxide, the protoxide; thus the chemical ray becomes a transforming agent, and silently and slowly works those wonderful molecular changes, the record of which is found on the analytical formula of the chemist, while the *modus operandi* nature reserves as one of her own unfathomable mysteries.

Another peculiarity of mercury which I shall mention, is its volatility. It volatilizes at the low temperature of 32° ; but the summer heat renders this quite appreciable, as may be readily tested by suspending a slip of gold foil in a bottle containing a small quantity of *Hydrargyrum Cum Cretâ*.

Now what is the application of the foregoing, to the subject in question? The Dispensatory says, "it was formerly thought, that the metal was oxidized in the process of trituration. At present the change is generally ascribed to the mechanical division of the metal which in this state, is supposed to be capable of acting on the system! There is good reason, however, to believe, that in this, as in all the analogous preparations of mercury in which the metal is extinguished by the trituration, a very small portion is converted into protoxide (suboxide), while by far the greater portion remains in the metallic state."

We have shown that even pure mercury at rest absorbs oxygen, and after a season becomes coated with a pellicle of the suboxide; and, that by mechanically dividing it by agitation, the amount of suboxide is increased, proportionately to the extent of surface opposed to the action of oxygen.

In its agitation, or trituration with chalk, this substance can exert no protecting influence over the metal; but as fast as a portion of suboxide is formed, it becomes distributed through the mass imparting its characteristic grey color, while the particles of metal are merely held asunder through its agency.

With regard to the *Hydrargyrum Cum Cretâ*, we deduce the following corollaries:

1st. When this preparation of mercury is exposed to the light, especially during the summer, a portion of the suboxide which it contains, is decomposed into the metal and red oxide (protoxide,) which in sufficient quantity, always acts as a violent instant poison.

2d. That the older the preparation, and longer the exposure to light, the less the mercury, and greater the amount of the oxide.

3d. That in order to have a perfectly reliable article of *Hydrargyrum Cum Cretâ*, it should be made of pure material, kept in a cool place, and excluded from the light.

4th. That freshly made and light-colored specimens are best, and those of a deep color should be rejected.

5th. That this preparation is unstable: that it tends to separation by the volubility of its mercury, and the superior mobility and gravity of its particles.

6th. That we have no reason to suppose that mercury, however pure, exerts any influence on the system in its metallic state: but that it must first be converted into an oxide and this oxide must be basic to a soluble compound; and that the amount of suboxide in *Hydrargyrum Cum Cretâ* is not at all injurious, providing, however, it remains as such; and that when this preparation proves an *irritant in itself*, it is due to a higher degree of oxidation.

ART. XXXIII.—*The Warm Bath in the Treatment of Asphyxia.*
 Read before the Berkshire District Medical Society. By WM.
 HENRY THAYER, M. D.

I shall take advantage of the present occasion of meeting with the Berkshire Medical Society, to call the attention of the members for a few moments to the subject of the employment of the warm bath in the treatment of asphyxia. I should not venture to ask any further attention to a subject that was so fully discussed at three successive meetings of the Society, when I had the honor of transmitting some written communications upon it, had I nothing new to offer in support of the views I then expressed. But at the same time that the treatment of asphyxia was under consideration in our Society, it happened to be brought up anew before the Royal Medical and Chirurgical Society (of England) in a paper read to that body by Dr. Christian, on January 22d of this year. This paper, from which Dr. Stiles quoted an opinion in favor of the warm bath at the April meeting of this Society, induced Dr. A. T. H. Waters, of Liverpool, to undertake a series of experiments upon animals, with especial reference to two points, viz. 1. How long does the heart continue to beat in asphyxia? 2. What are the effects of the hot bath (100° Fahr.) on an asphyxiated animal—first, after all respiratory movements have ceased; secondly, when respiration has been re-excited and is being feebly carried on? His experiments were made upon twenty-eight animals: dogs, cats and rabbits, and the results were presented by him to the Royal Medical and Chirurgical Society on May 13th.

Thus the very experiments which were needed to elucidate the facts in question with us, were undertaken, and attended with results so strongly confirmatory of the facts and opinions which I have already given to the Society, that I feel bound to report them in my own support.

One of the objections made to the experiments of Edwards and others was that in water at 100° Fahr. the glottis was completely relaxed, and the lungs became filled with water, hastening death; which did not occur at a temperature of 60°, as in that case there was a spasm of the glottis immediately on immersion. In the experiments of Dr. Waters this objection to the evidence on the part of the warm bath is removed: the animals were all drowned in cold water (40° to 50° Fahr.), and after respiration had entirely ceased, then a part of them were immersed in the warm bath (100° Fahr.), and the remainder were left exposed to the air. This removes the alleged objection to the experiment, and moreover places the subjects in precisely similar conditions to those of new

born children, first asphyxiated, and then subjected to the warm bath or left exposed to the temperate atmosphere of the room.

The experiments showed a continuance of cardiac contractions for an average period of nineteen minutes after respiration had ceased—the longest period being in a rabbit, forty-five minutes.

In regard to the effect of the warm bath, I will give only the author's conclusions from his experiments. "That, in cases of asphyxia where respiration has altogether stopped, the effects of the hot bath are: to produce an accumulation of blood in the lungs and in the left side of the heart, together with a tendency to coagulate on the part of the blood; that it does not tend to prolong the action of the heart, but rather to paralyze its movements, and diminish the duration of its contractions; that it does not excite respiratory efforts, and presents artificial respiration being properly carried out." He finds also that even when respiration has been re-excited, if it is still feeble, the animal is more likely to die if the warm-bath is used. His practical inferences are, "That the prolonged use of the hot bath in asphyxia is not only inefficacious, but dangerous; and that its temporary use appears to be attended by no direct benefit. So far as any means similar to that of the hot bath are likely to produce respiratory movements, the alternate dashing of hot and cold water on the body is probably the most efficacious."

In these conclusions, fairly arrived at, you will find, I think, the most complete support of the views brought forward in my former communications. I am happy to find a corroboration also of what always appeared to me to explain all the success that was ever due to any use of warm water in these cases. It is this: I have observed that the advocates of the warm bath, almost without exception, use it for short periods only, or alternating it with the cold bath—and always for the sake of the shock. They have usually described this manner of using it, as what they practised, but in their arguments have spoken of the effects of the warm bath, as if the child were immersed in it continually,—which would materially alter the case. For the very shock of the first plunge may excite respiration, which is then erroneously attributed to the influence of heat, without regard to the length of its application.

Dr. Christian, whom Dr. Stiles quoted at a former meeting, uses the following words in the paper already referred to: (first quoting the directions for the treatment of drowned men at the Receiving-House in Hyde Park, London)—"Place the body in the [warm] bath up to the neck. Raise it in *twenty seconds* from the water, and dash cold water against the chest." He remarks, "on the subject of the warm bath, which has excited so much discussion as a remedy, it must be understood that it is used as an immediate and powerful excitant; and it had so frequently happened, that a person brought in as asphyxiated, who to the bystanders was ap-

parently quite dead, immediately on being placed in the bath gave the sob or gasp which is the precursor of respiration, that it might be boldly stated to be a valuable adjunct to treatment, and, properly managed, in no way pernicious." This is evidence as appropriate as if it had been manufactured for our purpose. By Dr. Christian's statement, the first shock very often causes a gasping inspiration. He should give us a more distinct report of all the results of treatment at the Receiving House, in order that we might ascertain in how many cases the *prolonged* use of the warm bath resulted in recovery. At present, we have only the evidence on the other side, and his own suggestion of the necessity of "managing it properly"—from which we may infer that he does not believe in it unlimitedly. The standing regulation at the Receiving House is to raise the body in 20 seconds from the warm bath, and dash on cold water. It is evident that there is no intention to use the continued warm bath. It appears to me from this evidence and the language of others upon the subject, wherever it has been published, including the sentiments of gentlemen of this Society expressed at the February meeting, that with nearly all who give their opinion in favor of the warm bath as the means of restoring suspended animation, the opinion is not so much in accordance with their own practice as they suppose. They overlook the distinction between the continued warm bath and the plunge. Three members speaking in the discussion at the February meeting, say that their practice is to wrap the infant in flannel, which is no evidence that they are in favor of the bath at 100° Fahr. Enveloping the new born asphyxiated child in flannel does not raise the temperature of the surface to 98°. The temperature can be raised but little above that of the room, if the room has a temperature of 60° or 70°. And this is precisely what is proposed to be done in the course which I have advocated at former meetings—not to expose the child to a low temperature, but to the average temperature of our rooms, from 65° to 70°. I think that many who have taken part in this discussion have received the impression that a temperature much lower than this was intended.

It is worthy of notice in this connection, that in Asiatic cholera, in which the oxygenation of the blood is notably interfered with (*cholera asphyxia* is one of its names,) the use of the warm bath has always been found injurious in a marked degree. Dr. Parkes, of the London University, formerly an East India surgeon, says that patients always came out of it colder than they went in, and sank speedily afterwards.

ART. XXXIV.—*Annals of the Berkshire Medical Association and the Berkshire District Medical Society.* Prepared from the Records, by a Member of the District Society, for the Berkshire Medical Journal.

The ancient volume which holds the records of the doings of these Societies, opens with a printed copy of the charter of the Massachusetts Medical Society, A. D. 1781.

The first record is the following :

“ A copy of a Letter from the Secretary of the Massachusetts Medical Society.

Sir,

Boston, 1st Novr, 1785.

In conformity to the orders of the Massachusetts medical Society I herewith inclose you an attested copy from the Records of part of the proceedings at the last meeting ; Not doubting but that you will soon be able to form such an Association in your county as will redound to the honor of the county of Berkshire in particular, and to the Massachusetts medical Society at large,

I remain with Esteem & respect your very

humble servant,

N. W. APPLETON.

To Doct. Erastus Sergeant.

At a meeting of the Massachusetts medical Society 26th Oct., 1785, voted

that Committees be appointed in the several counties of this Commonwealth for the purpose of encouraging the communications of all important or extraordinary Cases that may occur in the practice of the medical Art, and for this purpose to meet, correspond and communicate with any Individuals or any Association of Physicians that have been or may be formed in their respective counties, & make report from time to time of their doings to this Society as occasion may require.

Voted, That a committee of two be appointed for the county of Berkshire.

Voted, That Doctor Erastus Sergeant & Doctor Oliver Partridge of Stockbridge be a committee for the above purpose.

Attest,

NATH'L WALKER APPLETON,

Recording Secretary.”

The proposition of the Mass. Med. Society does not seem to

have been acted upon till January 16, 1787, more than a year later, when, at a meeting of the physicians of the county of Berkshire,

William Whiting,
Erastus Sergeant,
John Hurburt,
David Church,
Eldad Lewis,
Hezekiah Clark,
Joseph Clark,
Oliver Brewster,

James Cowdry,
John Budd,
Samuel Baldwin,
Jacob Kingsbury,
Gideon Thompson,
Oliver Partridge,
& Amos Smith,

being present, it was voted

“That we form ourselves into a medical Association, for the purpose of observing and communicating those things which may be for the improvement of the art of Physick and of encouraging a spirit of union with those of the Faculty & of rendering the Faculty more respectable.”

The state of the country was evidently a serious obstacle to the operations of such an association, and at the second meeting, May 1, 1857, only seven were present, and the following vote included the whole of their doings: “Whereas the tumults of the times are so great as almost to prevent a meeting, it is agreed by those present that the meeting be adjourned to the 12th of June next, to meet at Mrs. Bingham’s in Stockbridge, at 10 o’ the clock A. M., and the Secretary is desired in the mean while to request of the physicians in the county a general meeting.”

June 12th. Fourteen gentlemen met, including the additional names of Timothy Childs, Thaddeus Thompson, Asahel Wright, John Wright, Samuel Baldwin, Benjamin Smith, Lyman Norton and Samuel Frisbee; and voted

“Notwithstanding the present discouragements, to continue to associate and not dissolve.”

They then listened to an oration from Doctor Eldad Lewis, who had been previously appointed to prepare it. The orator opened the business of the association in a classical and high-toned address, that is eminently worthy of being printed. For want of space, only extracts from it will be reproduced here, but sufficient to give a correct idea of the *animus* of the profession in Berkshire, if, as we suppose, it was fairly represented by the gentleman whom they had invited to address them. The sentiments and the style of the oration would be creditable to any period or place. It was entered upon the records, from which we make the following large extracts:

DR. LEWIS’ ORATION

On the usefulness of Medical Societies.

Mr. President and Gentlemen of the Association:

Having long lamented the many disadvantages under which the Faculty have laboured in America, it gives me the highest

satisfaction to perceive the gloom which has hitherto been an insuperable bar to all improvements to be dispersing and that the light of true science and rational knowledge begins to illuminate our hemisphere.

Animated by such a prospect it is with the utmost pleasure that I rise to the performance of the task allotted to me at this time, considering it introductory to the business of this meeting.

Not more than two centuries have elapsed since Physick was nearly in the same rude and uncultivated state that it was in the days of Galen; very little improvement having been made through that long intervening period, but since that time, the science has been cultivated with the utmost assiduity and success, by men of the greatest abilities of various nations. Every assistant was carefully employed and every impediment to a thorough investigation of the subjects was removed; the improvements that were made and the lights that were thrown upon the most difficult and intricate parts of medical knowledge were so rapid and at the same time so satisfactory to the intelligent enquirer, as to excite the most agreeable surprise to the philanthropic observer.

I shall undoubtedly have full credit given me when I advance it as a fact, that the confederation of Gentlemen learned in the Faculty into Medical Societies, has been eminently the most prolific source from whence has flown the modern improvement in medicine, and the advancement of the science to the exalted height to which we observe it raised at the present time. * * * *

For once, Gentlemen, draw a comparison between the state of Physick in Europe and America.

In Europe we find regular schools for the initiation and instruction of young beginners,—hospitals with liberal endowments, where the greatest variety of practice is readily seen, and where frequent dissections conduct to the highest perfection in anatomical knowledge,—an unreserved correspondence among the Faculty, thereby securing to each individual the kind unenvious assistance of the collective body. To all which we may add Laws and public institutions establishing and confining to the deserving only, to the entire exclusion of all others, every advantage and privilege which comports with the public welfare, the dignity of the profession and the honor and emolument of the Practitioners. While in this country there are no methods of education but the fortuitous instruction of private Gentlemen and those often the most worthless and unlearned. No practice is to be seen but by the laborious and expensive mode of visiting the sick at their respective abodes—the infancy of our country not admitting the establishment of hospitals of any consequence, while the false delicacy of the people seldom allows any advantage from dissections. In addition to these disadvantages may be subjoined the jealousy and ill-natured rivalry that almost universally pervades the Profession, the want of public regulations which might encourage and reward

ingenuity and industry, and prevent the illiterate and designing from intruding into the province of the learned and regular Physician.

Labouring under embarrassments which form so disagreeable a contrast with other countries, it will appear surprising if the Profession should want the assistance of any one from among the humane and benevolent to raise it from its present depressed state and to place it in a situation in which it might rival other countries in splendor and dignity.

This great and desirable purpose can never be obtained until all those low and disagreeable Ideas of rivalry that have hitherto actuated Physicians be discarded, and sentiments more liberal and philanthropic be adopted:—the general prosperity of the whole can never be obtained but by the united efforts of all the Parts;—so long as we are actuated by the meanness of jealousy and opposition to each other, the Faculty will be subjected to contumely from every quarter, and the Practitioners to every species of vexation and contempt. How far this has been the case hitherto the feelings of every American Physician will abundantly testify. *

From a friendly intercourse upon generous and liberal principles will result the most agreeable and advantageous consequences both to ourselves and the community. Let the Gentlemen of the Faculty give their ready concurrence to such measures and regulations as may be devised to give efficiency to the benevolent purposes of this Institution, and the Profession will be guarded against the intrusion of innovators, the several branches of medicinal knowledge be improved to their greatest perfection, our own reputation be promoted, a decent share of emolument for ourselves be secured, while the lives and health of our fellow-Citizens will have every protection that humanity can afford.

The satisfaction that will arise from this institution will be much enhanced by the improvements that will probably be made in the professional art in consequence thereof; our lives are so exceeding short, our business so important and arduous, and the requisite acquirements so various and obtained with such difficulty, especially in this country, that we cannot be excused if we fail of making use of every mean and opportunity that offers of facilitating the methods of education and of perfecting our own knowledge in the business of our lives. A society of Physicians, united upon liberal principles, offers a fine opportunity for improvement from the communications of the several members. Important incidents recurring in private practice will by this mean be rescued from oblivion, talents will be stimulated to exercise which otherwise might have forever lain dormant and useless, as there will be the greatest and most noble excitements to a laudable emulation and industry. Opportunities also will often present of habituating ourselves to observe accurately, to think justly, to reason truly and analogically, and to judge with precision. The complacency, as

well as emolument, that will hence result to each individual, will more than compensate for every trouble and inconvenience by which they are to be obtained. * * *

The natural history of our own country is a subject that has been but little cultivated hitherto, for which reason, as well as from its extensive usefulness, it demands our highest attention; intimately connected with which, and more directly subservient to the Profession, are the Botany and Pharmaceutica of indigenous vegetables. No part of the world is more fertile in efficacious drugs than the territory of the United States. * * *

The extensive usefulness as well as the honour of the Profession will be secured and established by this Institution, in the preservation and removal of Innovators. It will undoubtedly be in our power, when properly organised, to hinder the illiterate medicaster and ignorant quack from intruding themselves into the practice to the danger of the lives of the sick and the injury of the deserving Physician.

When the dispensing of medicines falls to the lot of those properly qualified therefor, it is perhaps one of the most necessary and useful avocations that can employ the attention of the human mind, while mankind live and conduct as they do at present. But the Profession instead of benefiting the World would prove one of the severest scourges that ever afflicted a degenerate people, if their lives and healths are to be at the disposal of an ignorant bold Pretender in Physic. * * * *

While we manifest a spirited disapprobation of Quackery, we must not forget to bear publick testimony against the illiberal and selfish practice of possessing and concealing Nostrums and Arcana, as equally detrimental to all improvement. If those secrets are really efficacious, it is highly injurious to the world not to publish them; if they are not, it is unworthy the character of a Gentleman to impose upon the ignorant and credulous at the expense of their lives, or to make use of such a low and scandalous mode to obtain business and credit. While we shall be ready on all occasions to reward industry and merit in whatever shape they may appear, I trust that quackery, selfishness and disingenuity will ever be put out of countenance by this association in an unreserved disapprobation and contempt. Various important advantages, beside those I have mentioned, will result from and stamp a value upon this Institution. The villainous frauds so often practised by Apothecaries, will be more easily detected, and their impositions prevented. The character of the Physician as well as the lives of his Patients depends upon the honesty and faithfulness of the Druggist. The importance of this subject demands the earliest attention of this association, to countenance, assist and protect the honest fair dealer, but to discourage and discard the fraudulent illiberal speculator. By these means we shall have at command instruments on which we and our patients can safely depend.

I shall mention but one circumstance more in which establishments of this kind may be beneficial ; much jealousy and more ill will has often originated between the attending and advising Physicians in cases where counsel is called. Let a decent rule of conduct, proper to be observed in such cases, be adopted, and all difficulty ceases.

It now remains, gentlemen, that we enter upon the execution of the proposed establishment, to prove to the world that we have liberality of sentiment enough to prefer the public emolument to our own private interest or honour. That we can see a neighbouring Physician outstrip us in eruditions and fairness of character, without enviously and meanly endeavouring his ruin ; that we can most readily concur in measures calculated to abolish all distinctions and ill-natured competitions from among the Faculty, to cultivate friendship, confidence, mutual advantage and improvement ; to eradicate envy, jealousy and every kind of animosity ; to promote the union, harmony, as well as dignity of the Profession. And it is my earnest wish and serious advice, that we may in all things and in all circumstances conduct with coolness, deliberation and candour. That we may remember that we are actors on a dignified and conspicuous Theatre, to the end that we may respect ourselves, conduct agreeable to our rank in life, and avoid everything degrading or unbecoming our character or the good of Society. Thus ennobling ourselves, while employed in the most important services of Society, we shall live and act with reputation and honour, and shall finally quit the Stage with the highest complacency and satisfaction, as conscious of the rectitude and dignity of our actions and pursuits.

At the same meeting a code of by-laws was submitted and adopted, having reference to medical education, the conditions of membership, the objects of the meetings and general professional intercourse. The laws are good and exhibiting the same general spirit which is manifested in the address. Perhaps they emanated from the same source, as the orator was a member of the committee which presented them. We will quote one of the articles :

“ Rule 8. All decent familiarity be allowed in said meetings in conversing on Physical subjects, and no inadvertence or misapprehension of any matter through inattention be made a subject of ridicule, but shall be corrected with that Lenity as becometh friends.”

The laws of the Association gave the certificate of the Association to persons who were reported by the Board of Censors, after examination, to be qualified to practice. The following is a copy of the certificate :

“ THE
MEDICAL ASSOCIATION
OF THE
COUNTY OF BERKSHIRE.

To ALL who may read these Presents, GREETING.

K NOW YE, That *Elijah Callin*, a Candidate for the medical Profession, having been strictly examined, according to the Rules of this SOCIETY, has exhibited his Proficiency in the several Branches of Physical Knowledge, to Satisfaction, is therefore hereby recommended to the Publick, as duly qualified, by a regular Education, to enter upon the Duties of the Profession.

Dated at Pittsfield, this eighth day of January, 1788.

By order of the ASSOCIATION,

WILLIAM WHITING, PRESIDENT.

OLIVER PARTRIDGE, Secretary.”

Under date of Jan. 8, 1788, is the following record :

“ Voted, To meet in June at Stockbridge.”

——“ But the Rebellion in this Commonwealth raised by Daniel Shays and his Associates proceeding with such rapidity to a crisis, a final period was put to the above-mentioned Association.”

And the Association slept till Nov. 12, 1794, when a meeting was called at the house of Daniel Pepoon in Stockbridge, and fifteen physicians, including eight new names, viz., Joseph Waldo, Reuben Buckman, Elijah Fowler, Eliphalet Colt, Elnathan Pratt, Hugo Burghardt, Daniel Goodwin and Horatio Jones, met and reorganized, and revised their rules. By these they were to hold four meetings a year. Rule 9th reads thus: “ A box shall be opened at each meeting for the reception *incognito* of questions, answers, cases and essays on medical subjects.”

The educational provisions were more exactly stated than they had been before, as the following rules will show :

“ Rule 12. No member shall take a pupil and put him to the study of Physic, untill he have a good knowledge of Mathematicks and the English language, and can construe and parse the Latin language with accuracy.” The 13th rule required three years’ study and an examination by the Censors.

The members were evidently shy of reputed authorship, for at one meeting it was voted that at every meeting each member should put into the box a written communication or a blank. At a certain hour, all papers in the box were taken out and read.

The meetings were regularly held at Stockbridge.

The Society seemed to drag ; a few were interested and always present, but apparently not enough to sustain the activity of the

Association ; and when they had adjourned on June 7, 1796, to the next June, there is no further record, and the Berkshire Medical Association came to an end.

Twenty-four years later a new generation appears to have taken the matter up, but this time the Association was formed under the authority of the State, granting permission for a District Medical Society in Berkshire, under the Massachusetts Medical Society. The charter was obtained in February, 1818, but it was not till March, 1820, that it was accepted. The Society was then organized under the title of the Massachusetts Medical Society for the County of Berkshire, Doctor Timothy Childs being the first President.

They were deliberate in those days : their fee-bill, which a committee had been appointed to report, was not presented till June 28, 1821 ; and the code of by-laws did not appear before September of the same year. The only noticeable difference from the laws of the former Association is in the absence of the provisions for medical education—which had by this time been provided for by Medical Colleges that had come into existence in the meantime.

May 16, 1822. The subject of founding a Medical College in Berkshire County was introduced by Dr. Henry H. Childs, and after discussion a committee was appointed to petition the Legislature of Massachusetts for a charter for such an institution, to be located in Pittsfield, and also for a grant of money to aid in the objects of the institution. No further notice of the result of the petition appears in the records, till, in October, 1823, it is stated that the Society met at the Medical Institution in Pittsfield. It was then voted, "To choose two members from the Medical Society to be members of the Faculty of the Berkshire Medical Institution." The gentlemen chosen were Doctors Alfred Perry and Wm. H. Tyler.

In December of the same year, a committee was raised to petition the Massachusetts Medical Society to hold its meetings alternately in Boston and Pittsfield. The petition was probably unsuccessful. A committee was appointed to examine into and report the condition of the Medical Institution, who, after a thorough examination of its affairs and condition, reported much gratification with the results of their inquiry, and that about eighty students had attended the course of lectures then just completed. The Society also voted to join with the College in a petition to the Legislature for an endowment of the College. It does not appear what was the result of the petition.

The Society continued to look very closely after the Medical Institution, as appears from the records of the next ten years, evidently fully appreciating the importance of a high standard of education, and understanding the great benefit to the State of a well-conducted Medical College. They were also very much interested in improving their relations with the Massachusetts Med-

ical Society, of which they were a branch. The difficulty of getting to Boston at that time rendered the annual attendance from this county very small, and members were averse to the payment of assessments, for which they thought they received no adequate return. Finally, in 1833 the business was so adjusted that a certain proportion of the money due the parent Society was retained for the use of the District. The faithful chronicler is obliged to report that here the Society went to sleep again. Except two slight movements, it made no sign again till 1842, when a new epoch commenced.

From 1842 till the present time the meetings have been held with regularity, the annual meeting in June at Lenox, and the semi-annual meeting at Pittsfield in November, on the day of the annual Commencement at the Medical College. The interest in the meetings of the Society has increased very much within the last five or six years. In 1855, it was proposed to hold an additional meeting in some other town. In July, 1857, the President and Secretary were authorized to call extra meetings at any time and place they might think advisable. In June, 1858, it was voted to hold monthly meetings at different places; and Lee, Great Barrington and North Adams were selected as the places for the next three meetings. Since that time, the meetings have been held monthly, being regularly (except the annual meeting, which is at Lenox,) held at Pittsfield, by a vote passed in November, 1858. From the interruptions of severe weather and professional business, meetings have occasionally been thinly attended, but as a general thing the numbers have been considerable and the meetings occupied with very interesting discussions of practical matters, relating to prevailing epidemics, or arising from cases narrated or papers read to the Society.

This renewed activity seems to have begun soon after the first railroad pierced the county, and it is not improbable that the readier communication with the outside world operated as a wholesome stimulus here. A few years later, the Massachusetts Medical Society very wisely voted to hold some of its meetings in different parts of the State—they had always been held in Boston—and came to Worcester and Springfield. No move could have been more judicious, for it raised an interest in the State Society in the western counties that had never been felt before, and secured the membership of a large number of medical gentlemen who had hitherto held aloof on account of the great difficulty of attending the distant meetings. Our District Society began to look upon the State Society as more parental than it had been, and we find that at the semi-annual meeting in November, 1850, it was voted,

“To appoint a committee to invite the regular physicians in Berkshire to become fellows of the Massachusetts Medical Society.” Surely the mother ought to warm towards the child; it required very moderate advances on her part to bring out the filial feeling in the District.

We believe, however, that not a little of the increased interest arose from the mere fact of the frequency of the meetings. All experience tells us that Societies which meet monthly are much better attended than those which only assemble semi-annually or at longer intervals—the interest will not survive the long intermission. Another prominent cause of the increased success after the vote to have monthly meetings, is to be found in a proposition of Dr. Collins, which is in the record of the very next meeting, in the following words: “Remarks from Dr. Collins relative to the manner of conducting our meetings; asking for more method, and suggesting that the President make an *individual* call upon the members to relate anything of interest which has occurred in the practice of each since the last meeting, and that ten minutes be allowed each member for such recital.” The proposition was adopted, and has since become the regular order of business, with the effect of bringing out much matter that would have been lost, as is always the case, from the diffidence of members and from want of system. The records which formerly contained merely the votes of the Society—of censure on delinquents, the management of the finances, and tributes to the memory of the dead, have grown, since a regular order of business was adopted, more and more valuable in a scientific point of view.

But the last improvement seems to have been received from the stimulus of the monthly report in the Berkshire Medical Journal; there is no doubt that the publication of the doings of a Medical Society is the best incitement to a vigorous activity in its meetings. The unpublished records contain references to many interesting subjects that were discussed by the Society, and reports that were made; but mere references, of little value, and which are therefore entirely lost. For instance, at the April meeting in 1859, the record shows that cholera, typhoid fever, congestion of the lungs from heart disease, acute rheumatism, puerperal convulsions, compound fracture of femur, and scirrhus, were all under discussion—cases were reported and made the subject of conversation. Yet the record is necessarily meagre, and has little scientific value, compared with what it might have had if reported for publication in any form, whether in a medical magazine, or in an annual volume of Transactions.

Not the least of the benefits of an association of the medical men of the same neighborhood, is in the opportunity for cultivating mutual good will and an honorable spirit among them. Heart-burnings and jealousies go down before the influence of frequent reunions, and in the monthly meetings of our Society, the social features are therefore as valuable to us as the scientific advantages. Our morning and afternoon sessions, are sandwiched with the hospitable dinner of some associate, and when we have eaten salt together, we cannot do each other a wrong.

We cannot close this sketchy abstract, in which we have taken

the liberty of interspersing various reflections with the chronicled events, and with little regard to preserving the character of a dignified report,—we cannot close, without expressing a hearty gratification that our present relations with the State Society are so much more agreeable than formerly. We have a strong hope that the publication of these annals, even thus informally, may serve to incite a new general interest in the Western Counties, and create a new bond between us and the East. Massachusetts (God bless her!) is too small to have any division within her borders. The mountains did interpose a serious barrier between us of Berkshire and the rest of the State, but the iron road has broken through them, and reminds those on both sides the ridge, that their interests are united.

We have seen with satisfaction, that, especially in scientific and professional relations, the whole Commonwealth has been more united since internal travel has been freer and since the State Society made some tours westward. We confess that, in respect to our inferiority in numbers here in Berkshire, the union of the State is more for our benefit than for theirs of the East—but they cannot afford to lose us.

Suppose the Massachusetts Medical Society should repeat the experiment of holding some of its meetings—say, one in three—in the middle or western part of the State. It is not merely to save us some of the trouble—no, indeed; it is the expression of good will, the holding out the hand of fellowship,—which is more effectual with men than any other motive power.

ART. XXXV.—*The Completeness of Character and the Varied Acquirements demanded by the Duties of the Medical Profession.*—

Being the Valedictory Address to the Graduating Class of 1861, at the Berkshire Medical Institution, delivered by PAUL A. CHADBOURNE, M. D., Professor of Natural History in Williams College, etc.

There are some objects in nature that delight us by their completeness. All of their parts may not be absolutely needed, but such objects please us, and they take a higher rank, because they present not only useful qualities, in the common use of this term, but also others added for beauty and to give delight. The oak bears its acorn without beauty of flower, and the apple tree might supply us with its nutritious fruit without that wealth of blossoms that cover its boughs like a bridal mantle, or without the rich tints of its ripened fruits glowing in crimson and gold. The thousand delicate flavors furnished by the apple might be reduced to one

the most common, and the fruit still remain as useful as it now is—that is, it might act the same part it now does, in building up the bones, the muscles and the nerves of the body. But who does not feel that the beauty of this friendly tree, in its wealth of snowy blossoms filling the air of May with sweetness—its display of richer colored fruit mingled with its leaves in Autumn—in the untold matchless flavors which Nature distills for every separate kind—who does not feel that all these are qualities desirable above mere utility, and that the apple tree is queen among the “trees of the wood?” They may surpass her in a single characteristic, but for completeness she stands unrivaled.

The same completeness delights us in human character. It is to its possessor a safeguard and rich reward for labor and self-denial—it is to the world a blessing in the good it accomplishes and as a model for imitation. These are mere truisms perhaps, but they are ignored, and the world is filled with half developed, angular characters like trees without symmetry—without flowers or perfume—with fruit, perhaps, but of the sourest and crabbedest kind. The world progresses, but generally in spite of such characters. They do not often accelerate its progress or increase its happiness.

In appearing before you who are ready to go forth to take into your keeping the dearest earthly interests of men—interests, too, that reach beyond this life—interests that will affect the race as you may advance or retard the knowledge of medicine—as you are ready to go forth to deal with such interests, I have selected as the subject for your consideration, *The completeness of character and varied acquirements demanded by the duties of the profession you have chosen.*

Every living thing must battle with the forces of nature. We often speak of the chemical forces as favoring the development of organic beings, and so they do. But it is only because the vital force rises like a mighty conjurer and compels them to favor its work. They are always ready to destroy. The moment vitality is weakened they fix their destroying fangs, and when life is gone they never rest till every atom arranged by the vital force is torn from its fellow and the whole mass re-arranged by chemical affinity alone. We may then justly consider every living thing as existing in spite of the forces around it, and as waging with them perpetual warfare. In no product of the vital force is this warfare more terrific than in man. He seems vulnerable at a thousand points. His enemies are legion. The heat of torrid climes engenders the swift devouring diseases that sweep thousands in a day from the earth. The cold of the north gnaws at the vitals, and long lines march slowly on to death marshalled by “consumption’s ghastly form.” The dry winds parch, the vapors weaken, diseases come as though they dropped from the clouds, no one knows how, but they sweep all ages from the earth. Every bone, every muscle,

every membrane, every nerve seems an open door for the entrance of disease, which shall possess the whole body, banish life, bring in death and dissolution. These enemies must be met—life is sweet to all—long life is a blessing—freedom from pain and disease, till we have run our allotted course, is a blessing. To confer this on men, or to labor intelligently and faithfully to do it, is a high and noble calling. It is a work worthy of the best intellect and the best heart. Our Savior himself healed physical maladies as preparatory to and symbolical of His work. In His blessed labors while on earth and in the character He now bears, He has rendered honorable the name of Physician. The profession has now, and it has ever had, its full share of great and good men. It is well for those who seek the honors and rewards, and assume the responsibilities of such a calling, to weigh well its demands.

Your profession demands of you a knowledge of the structure of the human body and the conditions most favorable for the action of every organ. To secure this, you have submitted to the hard work and repulsive array of the dissecting room. Patiently you have separated the muscles—traced the nerves and channels for the blood—the ligaments and every bone, until the body has become to you transparent—in which, with the mental eye, you see, as though it were glass, every tissue; and into which you would plunge the surgeon's knife with the same certainty as though the eye could follow the point and edge of the glittering blade as it passes on its friendly mission dividing asunder the joints and the marrow. This knowledge of the human frame is demanded of you. But knowledge of this machinery in the dead body is but the mere outline of your labors. You must trace the healthy action of these organs, as they build up and keep in motion the whole body. You must know every change, when disease, in its protean form, has fastened upon them. You must know what habit, what climate, what the mind itself will do to change, to aggravate, or control disease. Not a single force or condition that I know of in the physical or mental world can you afford to neglect. You must know them all in their complex intermingling, and you must be ready to press them into your service when battling with disease. You must go farther still, and collect from all the kingdoms of nature the medicines which they offer for the cure of disease. Great has been the labor and patient investigation, and I fear great the suffering too by which we have become possessed of our present knowledge of *materia medica*. But it is now wonderfully extensive, and I believe a most necessary and successful agent in the hands of the physician. It is popular to abuse medicine. It is valuable nevertheless. But I would have you use it wisely. What a vast range of knowledge does this imply. You may mix your doses by rule, and ipecac will nauseate whether you can tell its natural history or not. But

such empirical knowledge can never carry a man successfully through a long course of practice, and above all, it can never guide him into new paths, that he may press on to new discoveries and then point out the way to others. If we would have certain, constant progress in any department like the *Materia Medica*, we must have science for our basis. And what a boundless field here opens at once in botanical and chemical lore. I fear that many who have their diplomas elegantly framed have not enough of either of these sciences to read intelligently the United States Dispensatory. It may be the fault of our short three years' course; but whatever it may be, it should be remedied by all those who hope to become anything beyond mere plodding artizans in their profession.

If then we consider alone the topics already named we see how vast the field which this profession covers, and what stern demands it makes of all those who are fit for its responsibilities or worthy of its honors. It is no single science, but it is a profession demanding an intimate acquaintance with several sciences, each one boundless in extent. No other pursuit certainly demands a wider range of study, if we consider those things alone which you cannot neglect without disgrace and guilt.

But I leave these subjects which are readily acknowledged as essential to a medical education, to consider other elements of success, quite as important though much more likely to be neglected. And the first I mention is the power of rapid, accurate observation. The difference in men in this respect is marked in every department in science. We have those who seem never to comprehend that language which Nature writes upon every object to unfold its character and its changes. To every mineral, to every plant and every animal has she given this language—that is, marks and symbols by which its nature may be known. To every disease also she has given a language—a language which in our present knowledge is too often like the Pythian oracles of old, of doubtful interpretation, but the only means we have certainly of guiding ourselves in the application of remedies. How important that every syllable of this language should be fully understood,—and how wonderfully men differ in translating these signs you have all undoubtedly observed. Some seem to understand them by intuition. It is not strange, I think, that there should be in the community a notion that there are “natural Doctors.” It is true, so far as this, that some men have by nature great powers of observation or of detecting the thing by the outward symbol. There probably is great difference in men naturally in the delicacy and power of their senses. But they can be trained in every man. And if the naturalist trains his senses that he may look into the tissues of the leaf or the delicate sculpture of the fish scale, how much more needful that the physician should train himself to understand at a glance every symptom upon which

the future health and the life even of his patient may depend. You will never, as is sometimes said of the French Doctors, make diagnosis the end of your profession, and wait for your patients to die to prove that you were right, but you will understand fully that it is your only basis of intelligent action. You may now know anatomy and surgery and *materia medica*—the means of curing disease—but its detection is a part of your profession which you can learn only by observation. You have heard all the diseases accurately described and some of them will be so strongly marked that you will never mistake them, while others are so slight in their outward manifestations, and the varying state of the patient is marked by changes so slight, that they can no more be described in language than the rare tints of an evening sky can be transformed to canvass; and yet the practiced, observing physician sees them as plainly as does the painter the gorgeous colors he cannot imitate. While I thus refer to this power of rapid and accurate observation, which can only be gained by practice and never by study alone, I do not thus undervalue books. I knew a lawyer once, an old man too, who deplored the loss of his library because the books were just as good as when he bought them. No use has soiled their leaves nor worn their binding. No such libraries should be found in your offices. The man with many patients and the man with none, will each be likely to neglect his library—the first from want of leisure and the second from want of inducement. The habit of study will thus be lost, and professional duties become routine, or have the slow progress of individual effort. He will stand among the foremost, who acquaints himself with all that others do, and adds to this borrowed treasure the daily revenue of his own individual observation. As students we first study and then observe, to illustrate and confirm, in practical life we first observe, and then study to find answers to the questions that thus arise in the mind. So far I have treated of the acquirements and characteristics that belong to the profession. There are other qualities that make *men*—that ennoble every profession and every calling. You need them no more than other men, only so far as your profession makes it necessary for the community to look to you for models of true manhood, and confide in your honor, your honesty, your purity and kindness of heart.

The physician should be a man of general culture. The knowledge of your profession comes first, as a matter of course, but you are expected to go beyond. In almost every place the Doctor is the highest authority in all matters of science, and so far as time can be found for acquirements in literature and science, they should be cultivated, not only for the pleasure they afford, but as making up a part of that completeness of character which will find you standing in the community as men, and incidentally increase your professional reputation.

But you may have every quality I have named, the most brilliant talents and profoundest acquirements, and still be unfit for your profession. You want not only a head but a heart. The physician is to come into our families—he must come in time of weakness, in time of sorrow—he must be more intimate than any other man. We must intrust to him our secrets. When disease comes, we must commit to him to treat as he will, our wives, our children, and our own bodies. We must come to him in poverty, it may be, when we have no reward to offer for his labors. We must come when our money may tempt him to practice upon our fears, or to prolong the disease, or at least uselessly to prolong his visits. In fine, we want for our family physician a thoroughly good man—pure in thought, kind in word—he must be honor and honesty themselves. A man with such qualities is a blessing to the world. We are glad to have our homes near him. When disease enters our dwelling, he, under God, is our hope. When he enters, we feel that all that means can accomplish will be done. He is our friend in those days of sorrow and affliction. He is not only honored but beloved.

In thus hastily sketching the character of a model physician, I have set before you no impossible standard. It has been reached by many. Nor need you go beyond your own College Faculty for a veteran of four score years, his armor still bright and his name unspotted. To such I point you for models.

I have also to add for your encouragement that it is the natural tendency of every pursuit to develop those traits of character demanded by it. It does not necessarily do this. But if it fails, it is generally from want of conscience in the man. If he fails to improve, he retrogrades at once. This downward tendency, from unfaithfulness to the requirements of our calling, is abundant in every profession and in every pursuit. Its demoralizing effect appears from the humblest to the highest stations in the land. A warning this is surely to those commencing life: they can become fitted in character for their calling only by being true to all its requirements. Unfaithfulness will work total ruin, or rather produce a negative picture, in which the traits of character shall be completely reversed,—purity becoming impureness—honor, baseness—honesty, dishonesty—trustworthiness, treachery—and mental power and acquirements simply an enginery of evil. I have no special reference to the moral qualities, when speaking of this tendency, to produce debasing effects by unfaithfulness. But I must also speak of other possible changes of character in this connection.

The natural tendency of your profession is to give you varied acquirements. It daily demands study—it calls upon you to consider man in all his relations, and to become familiar with numberless bodies from the three kingdoms of nature. In a word, all the requirements enumerated in the beginning of this discourse are

not only demanded of you, but they in turn demand of you more, and urge you on to new acquirements in every field that borders upon them. The wider the field occupied the larger the surroundings, and the stronger the inducements for active exertions. You will be told that the field of science is so broad that no man can occupy it all. This is true: but many defeat the end they have in view by narrowing too much. They wish to be profound, but to be profound we must see the relations of our pursuit to others, and in the excessive subdivision of labor and study, this is lost sight of. The best specialist is he who builds upon a broad foundation of general knowledge of all allied sciences. It is necessary for progress in medicine that there should be specialists. You need here your anatomist, your surgeon, and your chemist, and in medical practice a similar division is undoubtedly desirable, when it is possible. But this can only be done in large towns or cities. The very large proportion of physicians are compelled to treat every possible disease. They are alone, and all the sick of a given place look to them for relief. And this demand the diligent, thoughtful man can well meet. This very diversity of disease and the knowledge that he must meet it, and take the responsibility, urges him to greater labor, and gives him more varied acquirements than he would ever secure, were it possible for him to fulfil his duties by confining himself to a simple line of investigation.

This mental progress, I take it for granted, you will make; the times demand it, and you must meet this demand or fail. But the heart is in more danger. Be ever on your guard. Some men become coarse and thoughtless in the dissecting room. Others spend years there and become chastened in thought and ripened in feeling. And why should they not? What more wonderful work of God is man ever called upon to contemplate than the human body? What place brings more visibly before us the natural results of vicious life? The bodies brought there from our cities show that those who die thus in poverty and friendless, are not simply unfortunate but depraved. Of all the subjects I have thus seen upon the dissecting-table, nearly every one has borne upon it, even in death, the evidence of animal propensities and vice. Such a lesson cannot certainly be lost upon a thinking man. But such objects and subjects, if they fail to chasten and purify, will harden and debase.

You will see also the worst side of human character. When disease fastens upon man, the grasshopper becomes a burden, and the physician may see peevishness and impatience, where he had judged such qualities impossible. It is not, however, to these natural revelations of the heart and aggravation of them by disease, that I specially refer. But the disease itself is often the record of depravity, where you had never suspected it—the diseased body may show a diseased soul. Men will sometimes con-

fess to you to save life. At other times they come with a tongue that tells a lie, but with a disease that speaks the truth. What a sad record would the diary of almost every physician present, if he should write there all that his patients have confessed to him, and all that their diseases have witnessed against them. Your duties to your patients will demand honorable treatment, but never speak lightly of vice, and guard your own hearts. Do not lower your standard of human character, because some who claim to be good fall below what you had expected. Remember there is yet an unfailing standard—a Divine Law. Guiding yourselves by its requirements, the vices which your profession will reveal to you in unexpected places will but act as warnings—show you the loathsome and degrading nature of all sensual indulgence and sin in every form, and lead you to greater watchfulness, and to trust in a higher power than the sin-loving, human heart.

Do not grow hardened and unfeeling as you become familiar with scenes of suffering and death. Remember your patient is a *man*, and so are you. It is painful to all of right feeling when the professional character sinks the *man*, and the physician becomes a mere mender of a curious machine, forgetting the awful interests that cluster around every human being. You must become a more hardened or a more thoughtful and a better man, as sickness, death and mourning constantly surround you. I repeat then what I have before said, that the duties of your profession will naturally produce the very traits of character you ought to possess. But if they fail to do this, they will reverse the picture and give darkness for light.

You are ready to go forth then to the duties and responsibilities of an honorable profession—a profession making great demand of study and observation—cultivation of mind and heart. I bid you God speed in your future career. If I wished to add proof of the power of the medical profession to improve and elevate the man, I should wish none better than the progress usually made by our students in their three years' course. The Dean who delivers the diploma to the student whom three years before he matriculated, almost needs the record to assure him that it is the same man. Not even in college life is the change more marked and rapid. Why should not this progress continue? It ought, but it does not. If it did, if there continued on the part of all the same hard study that precedes the final examination, the character of the profession would be elevated and the science of medicine rapidly progress. The world is before you. You can do better than those who have preceded you.

The honors and emoluments of your profession will not strew your path with flowers. Grave responsibilities will rest upon you. When you have done all that man can do, you will be blamed. You will see knaves and quacks reaping golden harvests, while perchance there will be plenty of spare room in your own

purses. This is a source of vexation, but it is not really so bad as it seems. Three-fourths of the money received by them, by which they build costly mansions and ride in rich carriages, it may be, is money that you could not take as honest men. It is money taken under false pretences. They claim knowledge which they do not possess, and ascribe powers to their medicines which they know they do not have. They practice upon the credulity of their victims—take their hard earned money, when they know they can make them no return. As honest men then, I say, the large portion of the money which such pretended doctors obtain, you could not possibly receive. As to the remaining portion of which they seem to rob you, for every dollar they take, they put two into your pockets, as you are called upon to cure the diseases which their ignorance has produced or aggravated. It is the community then, and not you, who really suffer. If they will have it so, they must take the consequences. If money were your object, I think it would be a ground of rejoicing, when a new quack or a new nostrum is let loose against the community. There is no help for it at any rate. Every man must do as he pleases in the matter. If he wishes to invest his extra quarters in Spalding's Cephalic pills, to wind himself in cold wet sheets, when he ought to be in warm flannel, or besmear himself with magic pain-killers, we ought to be thankful that he still lives. When he is really sick, he will probably send for a doctor. Now since he is using every available means to make himself sick, you certainly cannot complain.

But if you have any lingering doubts on this subject, you must console yourselves that quackery is not confined to medicine. We have teachers who give a complete knowledge of a foreign language in six easy lessons, while in our old fashioned way of teaching, it requires months, if not years. We have merchants who always sell less than cost and still grow rich, or who really do sell less than cost and then fail to pay their debts. The honest merchant has to contend with both of them. Quackery even enters the pulpit—ministers are found who will pander to the passions of the crowd—become mountebanks and border upon the profane, to draw a crowded house. They deal in every thing but the Bible. If that is introduced at all, it is in homœopathic doses.

Our friends the lawyers have the advantage. All in that profession must enter by one gate, and when they expel a member from the bar he cannot set up a court of his own, nor peddle out law to suit his customers. If there is any quackery in that profession, it is done by the regular members and of course according to law.

And now, gentlemen, I have given you my word of advice and encouragement. You will go forth from this hall with an honorable title—prove yourselves worthy of it. I heartily congratulate you in this pleasant termination of your preparatory studies, and your entrance upon the active duties of your profession. And as

you go forth, imitating the Great Physician, doing good to others, imitate Him also in the holiness of His character, till you shall be transformed into His blessed image.

ART. XXXVI.—*Report on a Chemical Analysis of Specimens of Hydrargyrum Cum Cretâ.* Prepared for the Berkshire District Medical Society. By HENRY M. SEELY, M. D.

The frequent complaints of the unreliability of *Hydrargyrum Cum Cretâ*, acting as it does sometimes kindly and satisfactorily, and again, when administered in the same quantity, with the same remedies, and under similar circumstances, operating harshly, as a rapid emetic and drastic cathartic, demand that the ground of this complaint be sought. By the direction of the Society, such investigations on the subject as other engagements would permit, have been made. Inquiry has shown that this complaint is not limited to one locality or to one sample. There appears quite a uniformity of experience among physicians, using, as they have, preparations both of our own and of foreign manufacture. Indeed, to so great an extent has this want of trustworthiness been established, that in many places its administration has been nearly abandoned,—drachms only being sold where formerly pounds were needed.

The unpleasant effects following the use of this remedy, may be attributed to impurity of materials, improper manufacture, or to some change, as oxidation, in the compound itself after preparation.

The greater part of the mercury sent into market contains scarcely a trace of foreign metals, being nearly chemically pure. Even were the mercury contaminated to a considerable extent, the foreign substances most likely to be present would not produce the results attendant on the use of the faulty compound. Chemical examination sets at rest the matter just here in question, showing the offending samples to be free from foreign metals.

The amount of time required for the breaking down, for the extinguishing of the globule of mercury when mingled with the chalk, has led to the proposition of various processes by which the result may be sooner reached. Some of these, as the mingling of resin with the materials, and afterwards removing it by solution, have to some extent been adopted. In the majority of cases, the substance was found to act upon the mercury, and its use was soon rejected by reliable manufacturers, and the objectionable process abandoned. As it has been observed that samples which, when fresh, were administered with desirable results, were found, after a time to lose their character and to degenerate, some other

cause aside from improper manufacture must therefore be sought.

The fact just mentioned, that samples at first reliable become useless, compels us to look for a change in the material itself. Does the metallic mercury in its finely divided condition become gradually oxidized, so that not only metallic mercury, but one or both of its oxides are administered?

The microscope as well as chemistry, comes to our aid, and an examination determines this point. In the examinations made, the sample presented by a member of the Society, Dr. Duncan, (of his own preparation,) was taken as the standard, the ingredients being perfectly pure and compounded with the utmost care. Dr. White, to whom the microscopical part of the examination was committed, reports that this specimen showed under the microscope metallic mercury more finely divided and more free from oxidized particles than any other sample in his possession. A sample that had been three years in the possession of another member of the Society, Dr. Lawrence, and presented by him, which invariably produced unpleasant symptoms, the severity of the action increasing with age, showed under the microscope very little metallic mercury, but a great abundance of black points, with some orange-colored matter—the two oxides of mercury, the black and the red. Other samples, agreeing with the latter in their microscopic character, agree also in producing the same physiological result. The deteriorated specimens usually take a darker color than when first prepared, while in some the mass has a light reddish tinge.

The chemical examination was as decisive as to the character of the offending specimens. While the standard sample gave no evidence of the presence of the oxides, the others responded at once to the ordinary tests. A portion of the latter was treated with an excess of dilute hydrochloric acid. The acid dissolves the chalk, and the red oxide, if it be present, converting the latter into chloride of mercury—corrosive sublimate; forms with the black oxide the subchloride of mercury—calomel, leaving it, when agitated with the supernatant liquid, as a white powder on the surface of the metallic mercury, which is unaffected by the acid. To the clear filtered or decanted liquid a solution of the iodide of potassium was added. A scarlet precipitate of the iodide of mercury was thrown down, showing the presence of corrosive sublimate, which had been produced from the red oxide existing in the cretaceous mercurial powder. Caustic potash produces in the same solution a yellow precipitate; ammonia, a white one. Upon the washed white powder resting on the metallic mercury, ammonia was found, which changed it at once to a black color, showing that it was calomel, formed from the black oxide existing in the compound.

For the quantitative estimation of these oxides, and the remaining metallic mercury, the process used by Prof. Proctor is satis-

factory. A known quantity of the *Hydrargyrum Cum Cretâ* is boiled in distilled water, acidulated with pure hydrochloric acid. The insoluble residue is thrown on a weighed filter, washed with distilled water, and dried. The whole liquid is treated with ammonia, and the white precipitate produced collected on a weighed filter, washed, dried and weighed, and from this weight the amount of red oxide in the powder experimented on is calculated.

The insoluble residue left by the dilute hydrochloric acid, after drying, is weighed and then boiled in caustic potash, the color changing to black. The liquid filtered from the black powder is saturated with nitric acid, and a slight excess of nitrate of silver added, which produces a white precipitate. This, washed, dried and weighed, gives by calculation the amount of chlorine which was combined with the mercury, forming calomel, which had been produced from the black oxide of mercury existing in the powder analysed, and from which weight the amount of oxide itself may be determined.

The black powder left by the last process is treated with acetic acid till the black oxide is removed, then washed, dried and weighed, which weight gives the amount of metallic mercury remaining unoxidized in the original compound.

Of a specimen thus analyzed, which originally should have contained 37.5 parts of metallic mercury, 22.25 parts had changed to the red oxide, and 4.05 parts to the black oxide, leaving less than a third of the metallic mercury in its original condition.

With the knowledge of such a change in the character of the metallic mercury before us, we need look no farther for the cause of the alarming result attending the use of long-kept samples of *Hydrargyrum Cum Cretâ*; the oxide existing in the powder produced by the gradual oxidation of the finely divided particles of mercury, probably being converted in the fluids of the stomach into compounds of a more energetic character.

These facts will hardly deter those who have been accustomed to prescribe this preparation with satisfactory results, from continuing its use; for as heretofore they will secure fresh samples from trustworthy manufacturers. If at any time they find the result of their prescription different from what was anticipated, they will at once suspect the cause and rejecting the deteriorated sample resort to a new and reliable one.

Those who have abandoned its use will hardly return to it, preferring to rely on the metallic mercury in the form of blue mass, in which the metal, though finely divided as in the cretaceous powder, is not so liable to oxidation, surrounded as every little particle is by a viscous covering shutting off the oxygen of the air.

The knowledge of these facts should lead either to a very careful selection of this preparation, or to the substitution of one of a less variable character.

ART. XXXVII. — *Synopsis of Fifty-eight Autopsies, made in the King's County Hospital, Flatbush, L. I. Prepared for the Berkshire Medical Journal.* By HENRY STANLEY PITKIN, M. D., Assistant Physician.

NAME.	Age	Hours of d.p.	DATE.	EXTERIOR.	BRAIN.	LUNGS.	HEART.	LIVER.	SPLEEN.	KIDNEYS.	CAUSE DEATH REMARKS.
1. Owen K.	55		July.		56* normal	tuberc.	5* normal	72* fatty	5* normal	5 1-2 each, congested	tubercle.
2. Michael F.	80	20	Aug.	strong, emaciated	48-mid. lobes soft.	tuberc.	18-ossif. of art. v. and coron. art. peric. adh.	42-normal	9-soft	r. 6-fatty, surf. cov'd with cysts, l. 5 1-2—fatty.	tubercle. 3 gals serum in peritoneum.
3. Robert C.	34	20	Sept.	large, strong, emaciated.	normal, effus'n underach. into ventr.	tuberc. herent	11 - other-wise normal. mal.	68 - straw-col. mott'd with red fatty	5-normal	both 1 5-normal.	tubercle.
4. Miller.	45	8	Sept.	small woman, much emaciated		tuberc. ad-herent	5-normal	35 - "nutmeg"	2-normal	3, aa-slightly fatty	tuberculosis. mes. glands enlarg'd. Pey-er's p. ulc.
5. Eliza M.	59	40	Oct.	well-devel. emaciated		tuberc.	8 1-2 - normal	41 - slight congestion	6 1-2 - normal	r. 4 1-2, l. 5 1-2-normal.	tubercle.
6. Christie L.	36	14	Oct.	oedema of legs		tuberc	7 - pericardium adh. thro'out.	51-fatty	4 1-2 - normal	8, aa-fatty	tubercle.
7. Rosa M.	50		Aug.	much ema.		tuberc.	16-valvular disease, and adh. peric.	60-normal	16-hypertrophy	7, aa-fatty	tuberculosis, blood not coagulated.
8. William S.	35		Aug.	feet & legs cedem's — body ema		tuberc.	14—	64-normal	7-normal	r. 5-gran'd l. 7-cong'd	tuberculosis.

NAME.	AGE.	HOURS af. dth.	DATE.	EXTERIOR.	BRAIN.	LUNGS.	HEART.	LIVER.	SPLEEN.	KIDNEYS.	CAUSE DEATH
29. Hannah W.	22	Oct.	body emac. l. leg very œdem. r. sit abd. dist'd. extreme e- maciation	44-softened thro' out	normal	normal	a-aortic & 24- mitral. v. thickened	congested	1-2	gran. and atrophied. r. 2-1. 21-4	gested. r. 5 3 1-2 gallons fluid in perit. Bright's dis.
30. Elizabeth R.	43	8	Oct.	41-normal- acute me- ning—effu- thin fluid	normal	normal	12-normal	50-waxy	4 1-2--nor- mal	gran. and fatty—r. 2- 1. 2 1-4	uremia, su- perv'g upon Bright's dis. large cyst, of hair and fat, in l. ovary.
31. Rose S.	75	11	Oct.	small, much emaciated	42-normal- arachnitis	lobular pneum.	7-normal	33--cirrho- sis	3 1-2--nor- mal	gran. and fatty—5 aa. pneumonia.	Bright's dis.
32. John M.	50	18	Oct.	large, œde- ma legs and scrotum	normal	normal	9 3-4-athe- roma, aort. v.	40-fatty	3-normal	fatty, con'g many cysts, gals. fluid in r. 4, l. 4 1-4 peritoneum.	uremia, two pervening on Bright's dis.
33. James B.	50	25	Sept.	very large, strong, fat	50-normal	congested	19-fat, de- pos. an d infiltr'd	99-fatty & 12- very brittle soft	very fatty-8 each	1-2 uremia, su- pervening on Bright's dis.	
34. William V.	62	Aug.	48-2 oz fu- lid in ventr. vessels en- gorged	normal	normal	normal	12-normal	47-normal	5-normal	fatty--sev'l cysts--r. 7- l. 6	meningitis, superv'g on Bright's dis.
35. Mick McK.	65	Aug.	50-normal	normal	miliary tu- ber c. in both	normal	8-calc. de- pos. in aortit v. & aorta.	34-conges-	2-normal	fatty--8 aa	Bright's dis.
36. John B.	50	July.	45-1a rgc coagula. r.	normal	normal	normal	10-flabby- peric. adh.	48-fatty	4-softened	slightly fatty 4 aa.	stellate frac- ture of r. pa-

NAME.	AGE.	HOURS aft. d'th	DATE.	EXTERIOR.	BRAIN.	LUNGS.	HEART.	LIVER.	SPLEEN.	KIDNEYS.	CAUSE DEATH
42. Mary J.	79		Aug.			h't — car- bon's dep. abund't in both					
43. Mary F.	40		Aug.			adherent thro' out normal	13-normal 11-normal	40-normal 66—fatty	4-normal 8-normal	normal — r. 8 l. 2 — l. 5 r. 4 — l. 4 1. 2	old age. cancer of os uteri, extend- ing upward. injuries about pelvis, re- markable ap- pare't insens. to pain, of which no sign during exam. commun. frac. upp. extrem. femur—fract. 7th and 10th ribs. inflam. of bladder.
44. J. F.	32 20		Aug.	short—ex- trav. blood under a- into left ach.—me- groin—cre-dul. port'n pitus on much in- teriorly in moving leg durated	50—effusion under a- rach.—me- tuberc.— adema pos- teriorly in both	l. upper adher. and tuberc.— adema pos- teriorly in both	8-normal	46—dark— gall blad'er thro' out 137 calculi, from size of pea to mar- ble	4—b l a c k thro' out	congested— both 10	
45. Philip M.	22		Aug.	medium—soften- size—mac.—ing of infer. as cite—p't of cere- oedema of bell-memb. scrotum & very pale penis		normal	11 — s u b — stance pale like an egg —white fi- brinous clot in l. auricle	38—shaped like an egg —no l. lobe	19 — inter- nally pale	very pale— 5 aa	leucocythe- mia. 3 gals. pale yellow fluid in perit. —suprarenal caps. enlarg. and pale-mes. glands large and soft.

46. Simeon C.	50	24	Oct.	well-devel- oped	54-softened	normal	with peric. 47 - cirrho- vessels and sis a b n o r m a l dep., 31 - atheroma in pulm. art. 51-2-nor- mal	3-normal soft	4 aa - nor- mal	acute pericar- ditis.
47. Peter E.	52	14	Oct.	large, stro'g -operation for strang. hernia four days ago	normal	normal			r. 7 1-2-1. 6-inflamed	peritonitis after op. for strang. her- nia. intestin's agglut'd by thick lymph- sevr'al perfor. in trans. col'n -omen. gang. yellow fever. conges. muc. memb. intes. -stom. con- tains yellow, ropy fluid - v'ns of omen. and mesen- tery gorged with fluid blood.
48. Philip B.	35	14	Aug.	strong, skin very yellow especially above waist	46-normal- dura mater yellow	1. lung ap- pleuritic, no crep. 24 oz. yellow fluid in pleura - r. congest- ed, crepi- tates.	10- cavities 120 - dark, no filled with straw color yellow fi- anemic, fri- brino u s a b l e, dry - clots bile scanty, thick and ropy	9-very soft	c o r t i c a l substance yell'w, con- gested - r. 7 -l. 6 1-2	yellow fever. conges. muc. memb. intes. -stom. con- tains yellow, ropy fluid - v'ns of omen. and mesen- tery gorged with fluid blood.
49. Sam'l O'D.	18	14	Aug.	below med. size- above waist yell- low	52-white part. soft - yellow men- gingitis wellmark'd -dura ma- ter yellow	normal - both adhe- rent	8-no coag. 45 - upper 1 oz. yellow surf. mot- fluid in pe-ric with ricardium yellow and red- under, dark green, friable	7-soft	congested - 5 aa -	yellow fever. m.m. of stom- ach slate-col. with red patches most num's along less. curv.
50. Mick W.	38	20	Sept.	large, stro'g -yellow,	congested & œdem's	congested & œdem's	16-flabby- 64 - yellow no clots externally,	7-normal	both 16 1-2 -fatty	yellow fever. intestines dis-

NAME.	AGE.	DATE.	EXTERIOR.	BRAIN.	LUNGS.	HEART.	LIVER.	SPLEEN.	KIDNEYS.	CAUSE DEATH
			with irreg. red patches espec. on limbs and dependent parts				fatty—in places "nutmeg" —superior post. bor- der, small abscess, containing blood			tended with gas—m.mem. covered with subst. like tar stomach con- tained a pint dark colored fluid—m. m. soft, with pat. like flea-bites
51. Ellen L.	20 18	Oct.	plump, well devel.—yel- low ant'y above thighs—rose cold spots posteriorly	52—normal dura mater yellow	8—no clots— softened edematous	63 — deep yellow, dry and friable	4 1-2—soft		cortical port'n yel- low—fatty— r. 4 1-2—l. 5 1-2	yellow fever. stomach con- tained one oz. 'black vomit,' yielding no color to white paper—l. half stom. cov'd with "flea- bites," typhoid fever ulceration of Peyer's p.— gen'l thick'g of muc. coat.
52. Jacob M.	43	Aug.	fully devel. fleshy— edematous legs	43—conges- tion, effus. under arachnoid	r. normal— l. 1st stage of pneumo- nia	74— cirrhosis	10—		congested, granular—7 aa	typhoid fever ulceration of Peyer's p.— gen'l thick'g of muc. coat.
53. N. K.	20 10	Sept.	small— screw at emaciated		slightly congested hard ad- enations	7—normal	51—similar to liver of renitent— darker	7—conges- ted	very fatty— r. 6 1-2—l. 7	typhoid fever ulceration of Peyer's p.— enlargem't of mes. glands.

54. Annie	12	17	Sept.	strong, ro- bust	49--arach. congested-- 4 oz. fluid in ventr.	small tu- berc. lower edge of lung edematous -otherwise normal	5-- normal	39-- congested	6 1-2--very soft	normal-- 3 aa	enteric fever-- 6th day of disease.
55. Ann S.	16		Aug.		50--slight arthritis-- otherwise normal	congested-- edematous -l. adherent	7-- normal	58--pale, with dark spots--soft	9--dark and soft	both 14--	remittent fever.
56. James B.	35	9	Sept.	large, strong	59-- congested	congested-- r. adherent to diaph'm	11 1-2-- normal	78--two large ab- scesses in r. lobe, filled with white creamy semi-fluid	9-- pultaceous	r. 5--fatty, l. 6-- normal	remittent fever.
57. Thomas D.	30	23	Sept.	well-devel- oped	57-- congested	edematous -adherent	11-- normal	68-- fatty	17-- congested	5, aa-- fatty	remittent fever.
58. Terence T.	35	12	Sept.	large, strong	47--very much con- gested	l. adherent & edemat's r. adherent thru' out	12-normal- 6 oz. fluid in peric.	60-greenish blue slate color--soft- ened	13-- pultaceous	both 12-- slightly fatty	remittent fever.

* The figures standing alone under the several heads, brain, heart, liver, spleen and kidneys, indicate the weight in ounces avoirdupois.

ART. XXXVIII.—*Note to the Berkshire Medical Society, on the Treatment of Asphyxia.*

From numerous experiments on birds and mammals, submerged suddenly in water at various temperatures, I have reached the conclusion, that the temperature of the water exerts no appreciable influence upon the duration of vitality or upon that of muscular or nervous irritability, in healthy adult animals. The sudden overpowering deoxidation of the blood is so completely out of proportion to the slight effect of external temperature, during the short period which suffices to extinguish life, that the latter remains without effect upon its duration.

When a bird or mammal is immersed in water at the temperature of its body, no spasm of the glottis takes place, (as always happens when the water is at a low temperature,) and the lungs fill with water, so that this source of error must be eliminated if we would draw conclusions from such experiments applicable to the treatment of asphyxia in the newly-born, or in cases of narcotic poisoning.

When a warm blooded animal has been previously subjected to a low temperature, or has been allowed to grow cold by section of the spinal cord in the neck, the duration of muscular and nervous irritability, and consequent capability of restoration after immersion, is greatly prolonged. The blood is not so rapidly deoxidized, and if the temperature be brought sufficiently low the blood returns of a florid color in the veins. We need not fear depression of temperature until that of the blood falls to the vicinity of 77 degrees Fahr., when muscles and nerves will cease to react under stimulation. In the experiments of Edwards, kittens drowned in water at 32 degrees Fahr., ceased to give signs of sensibility and motion at the end of four minutes and thirty-three seconds, while at 68 degrees they gave signs of life for thirty-eight minutes and forty-five seconds. As at neither of these temperatures the water enters the lungs, the experiments are strictly comparable, and the short duration of life in the first instance may be fairly attributed to the loss of irritability which has been proved to occur at about 77 degrees Fahr. in animals subjected to inanition or artificial refrigeration.

We may conclude, therefore, that when the thermometer in the axilla or under the tongue of a newly-born child falls to near 77, its life is in danger from cold, and that heat should be instantly applied. The temperature of the lying-in chamber is rarely above 70, and evaporation from the body of the child causes a rapid descent of temperature, when not counterbalanced by a sufficiently active nutritive combustion. The beneficial effects of the warm

bath, not used merely for the purpose of producing a shock, but as a most efficient means of raising the temperature of the body, which have been noticed by so many competent observers, this meets with a simple and satisfactory explanation.

On the other hand, a high temperature, even that of 100 degrees Fahr., would inevitably shorten the duration of life in an asphyxiated child. The experiments of W. F. Edwards, Marshall Hall, Brown Séquard and others, would prove this, provided it could be shown that the entrance of the water into the lungs cannot claim an important part in producing the fatal result. In repeating these experiments, I have taken the precaution to tie or close the trachea, and the results have not been materially changed. Water may be injected into the veins of an animal to the amount of one-third of its weight, without producing serious accidents. The application of heat, therefore, in the treatment of asphyxia, should not be indiscriminate, but regulated by the temperature of the body, which should be kept at as low a temperature as is compatible with the preservation of the nervous and muscular irritability—necessary for sustaining the respiratory movements.

R. CRESSON STILES.

NEW YORK, November 9th, 1861.

SELECTIONS.

REPORT OF A COMMITTEE OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT,

ON THE ALLEGED DANGERS WHICH ACCOMPANY THE INHALATION OF THE VAPOR OF
SULPHURIC ETHER.

Any one who has observed the course of events, especially the tone of journals and the published statements of late surgical writers, as Erichsen, Druitt, Hamilton and others, must have noticed a diminishing confidence in the safety of chloroform and an increasing willingness to allow the greater security of ether. Various influences have, however, prevented the disuse of the former, even by many of those in whose hands accidents have occurred, and it still remains the anæsthetic most in vogue. When the subject of chloroform first came under discussion, its dangers were commented upon, and even then freely acknowledged. It had not been two months introduced, when "a well-developed girl of 15" died from its administration for the evulsion of a toe-nail, "the process of inhalation, operation and death not having occupied more than two minutes." Since that time deaths from its use have repeatedly occurred. On the other hand, fatal results from ether, although still figuring in the statistics of mortality from

anæsthetics, are everywhere admitted to be very infrequent. Indeed, the opinion has been expressed by various authorities, both in America and Europe, that a death really attributable to the inhalation of sulphuric ether is yet to be reported. The correctness of this opinion has, however, been repeatedly denied, and the strong conviction of the absolute safety of this agent, which exists in some localities in this country, is thought to have its foundation rather in the desire that the fact might be established than in the proof that it was so. Of course no one intends to say that a person cannot be killed by ether. The inhalation of its vapor, without a sufficient admixture of oxygen, destroys life by asphyxia. This may happen, and unfortunately has happened, but such an event cannot be laid to the anæsthetic, since in such a case, it is the method of administration, and in no sense the ether, which causes the fatal result.

It is the purpose of this report to solve the doubt just implied with regard to the absolute safety of sulphuric ether, and to investigate the dangers of its use as compared with chloroform. In pursuance of this object, therefore, we propose, in the first place, to consider what conditions and precautions are necessary in bringing about a state of insensibility by its use, and what phenomena of etherization have an apparent or real danger.

I. The safe inhalation of ether requires proper attention—1st, to the quality of the article used; 2d, to the method of administration; 3d, to the symptoms which present themselves while the patient is under its influence.

1st. *Quality of Ether.*—Ether for inhalation should be of unquestionable purity. A large amount of inferior ether is sold which cannot readily be distinguished from that which is pure, except by its effects, although an expert, familiar with its properties, may infer something from the odor and other sensible qualities. The inferiority may be due to oxydation from bad corking, the presence of alcohol, sulphurous acid which has not been removed by thorough washing, and volatile oils. Either of these impurities may give rise to a tedious and imperfect inhalation, and the latter of them, by irritating the bronchial mucous membrane, to such coughing, struggles and resistance that the patient is finally etherized in a distressing and unsatisfactory manner. Accidents of this kind lead to a disparagement of the value and practical usefulness of ether. It is therefore an advantage for the surgeon to procure his own ether, or to use from an "original package," of the character of which he has already assured himself.

There are two brands of ether in common use in this country; viz., that manufactured by Powers & Weightman, of Philadelphia, and that by Dr. Squibb, of Brooklyn, N. Y. These are uniformly of excellent quality. The latter is remarkably anhydrous, but possesses an odor more harsh, disagreeable, and intensely ether-

like than the former, and, in the opinion of those who have used it extensively, produces more choking during inhalation. This may be remedied to a certain extent by moistening the sponge from which it is given in water, enough of which will perhaps be taken up by the ether to diminish its unpleasant effects.

Ether may be made purer by simple agitation in lime-water, allowing the water to settle, and then decanting; and this washing is, practically, and for general application, as good a method of purification as can be adopted without re-distillation.

2d. *Method of Administration.*—Ether should never be given from any inhaling apparatus. The best medium of its administration is a bell-shaped sponge, large enough to cover in the nose, mouth and chin; but it is difficult to find one of sufficient size and close enough in texture, or without such numerous apertures at the root as to admit too freely the atmospheric air. A sponge of this sort, moreover, being as expensive as rare, is seldom used outside of hospitals. A stiff towel, properly folded, may be substituted, and has the advantage of being always at hand; as it may be left behind, the surgeon does not carry away with him the annoying odor of an impregnated sponge. It is desirable that the towel should be a new one, and of pretty good size. It is to be taken just as it comes from the laundry, and not unfolded further than to display it in the dimensions of about ten inches by five; by folding down two of the corners in such a way that they shall lap over each other a little, and securing them by stout pins, a cone will be made which fits the face admirably. The thick layers of towelling will hold sufficient ether, and its texture prevent a too free dilution of the anæsthetic by the atmospheric air, provided the apex and seam of the cone are carefully and tightly closed, either by pins or the fingers. As the cone becomes collapsed by saturation, it should from time to time be opened, and kept in shape by distending it with the hand. Unless these details are attended to, and especially the closure of the apex of the cone, the induction of anæsthesia will be uncertain and protracted. In anything so porous as a towel or sponge, the difficulty is to exclude enough air; for while its adequate admission to the lungs during etherization is essential to the life of the patient, its too free entrance not only delays anæsthesia, but induces a condition of excitement, both mental and physical. The importance of excluding the air, as above stated, is a point not generally appreciated, but the necessity of it has long been known to those most accustomed to the use of ether, as shown by the "chemise" with which, in hospital practice, a too porous sponge is often covered to expedite the etherization of a rebellious patient.

Ether should be poured lavishly on the towel or sponge, an ounce or two at a time, especially at the commencement of inhalation. Although it may be wasted, too much, so far as safety is concerned, cannot be used. A small quantity poured on hesita-

tingly and timidly, as is sometimes done, has the same effect as a too free dilution of the vapor with air, producing simply intoxication and its accompanying excitement without anæsthesia; whereas a large amount, though the cough and choking sensation which the greater volume of vapor produces may cause the patient to resist and struggle, is certain to bring about a satisfactory condition of insensibility.

3d. *Phenomena of Etherization*.—A strong, full-blooded man is pretty sure to resist the approaches of anæsthesia under any circumstances. This may sometimes be overcome by warning him before hand of such a possibility, and inducing him to resolve not to struggle; the last impression on his mind influences him even in his stupor. Resistance is also liable to be made by almost all patients just before complete anæsthesia takes place, but the ether rarely requires to be suspended. Occasionally the respiration becomes embarrassed during the period of excitement, partly from the struggle itself, and partly perhaps from the increased flow of saliva, which is a common phenomenon of etherization, or from the position of the tongue or head of the patient, and a condition may sometimes show itself characterized by lividity, rigidity, and convulsive motions of the extremities. These phenomena it is an observation of Dr. H. J. Bigelow, of this city, are in reality the tetanic symptoms which, as Dr. Brown-Sequard has shown, precede the approach of asphyxia. Although alarming to the inexperienced, the state is in fact devoid of danger, provided the ether be momentarily suspended; this being done, the refusal to breathe soon gives place to a long-drawn inspiration, and in most instances complete insensibility immediately ensues. In such a case it is interesting to observe how readily the spasm yields, and how complete is the muscular relaxation which follows the free respiration of air unmixed with ether. It should therefore be borne in mind, that when there is muscular rigidity with lividity, the suspension of etherization will transform this into the relaxation of anæsthesia. Persons of intemperate habits succumb to ether slowly, and with greater reluctance and more opposition than persons unused to intoxication.

The pulse should be watched by a competent person from the outset, and its failure, either in strength or frequency, lead to a more cautious use of the ether. It must, however, be remembered, that in experiments with anæsthetics upon animals, the heart has been found to be *ultimum moriens*: the respiratory movements therefore, should not be forgotten or neglected, but any slowness or irregularity in their performance should at once receive attention. Dr. H. J. Bigelow has drawn attention to the distinction between the effects of anæsthesia upon the pulse of the healthy subject suddenly reduced by accident, and a similar or even stronger pulse in a person exhausted by long and grave disease. In the former case the vitality is unimpaired, and the pulse even

when hardly perceptible, rises with anæsthesia. Ether, therefore, is not to be withheld from a patient to be operated on, even in a state of collapse after severe accident, but great caution is demanded in its use with patients who are near death from chronic and exhausting disease, and who require operations.

The best test of complete etherization is the snoring of the patient; and no operation, unless slight, should be undertaken until this symptom presents itself. The relaxation of the muscles of the extremities may occur without insensibility. The important distinction between *snoring* and *stertor* is, however, to be borne in mind. Whilst the former is caused only by the relaxation of the muscles of the palate, the latter arises from spasm of the vocal cords and partial closure of the rima glottidis, and thus becomes the immediate forerunner of the train of symptoms already referred to as indicative of partial asphyxia. Stertorous respiration demands, therefore, a brief suspension of inhalation; one or two inspirations of fresh air, will, as already mentioned, almost instantly dispel the symptom.

Ether may be administered to persons of all ages, from the new-born infant to the octogenarian. There is, however, a condition prone to manifest itself with children, especially those who are weak, strumous or overgrown, which is due to cumulative properties. It may show itself after almost any degree of etherization, and is characterized by a feeble pulse and slow respiration, not passing off with the readiness usually marking the phenomena of etherization. With young persons a cautious inhalation of five minutes will often induce an anæsthesia of half an hour, an effect wholly out of proportion to that which the same amount of ether would produce in an adult. This state is not a dangerous one, and only requires time to dissipate its symptoms. Compression of the chest will expel the fumes of ether being eliminated from the pulmonary surface, and admit the entrance of a fresh supply of oxygen to stimulate the circulation. The inhalation should therefore be suspended at short intervals with children, and but little ether given at a time. Undoubtedly it should also be used cautiously with persons, past the middle period of life, of such a general obesity or constitutional condition as may lead to the supposition of a fatty degeneration of the heart. In none of the alleged deaths from ether, however, is there any mention of valvular disease of the heart being found. Of this, then, and of any bad effect upon pulmonary affections, there need be no fear, for we see it constantly administered without detriment to persons more or less advanced in phthisis, for the common operation of fistula in ano.

Its subsequent effects are rarely disagreeable. The nausea and vomiting which follow the use of any anæsthetic may be prevented or diminished by giving it upon an empty stomach. Faintness, although a rare event, is occasionally noticed, and demands

the ordinary treatment by stimulants. Headache sometimes remains for a few hours, but seldom persists into the following day. We now and then hear of delirium, debility, and the non-return of a full use of the mental faculties, as temporary accidents from the use of ether. Such occurrences must be of extreme rarity, and probably, find their explanation as much in the idiosyncrasies of patients as in the effects of the anæsthetic.

II. Having thus detailed what we conceive to be the conditions of its successful and safe administration, we undertake, in the second place, to prove that, these conditions being fulfilled, sulphuric ether is, of all anæsthetic agents, alone worthy of unlimited confidence.

Confirmation of this assertion is to be found in what we know of the use of ether in other places. It is true that thus far this has been limited to a few localities, but wherever it has been adopted the confidence and freedom with which it is administered is worthy of notice. In 1857, it was stated that for about eight years ether alone had been used in the civil or hospital practice of Lyons, in France, and that during that time the necrology of anæsthetics, so far at least as that city was concerned, had remained closed. And here in Boston, where more ether has probably been inhaled during the last fifteen years than in any other place in the world, from the time when Dr. George Hayward performed the first capital operation under its influence (Nov. 7, 1846) down to the present day, no fatal results have ever occurred, or been heard of in the vicinity, though repeated deaths have happened from chloroform during the same period.

But to sustain the above conclusion with regard to the absolute safety of sulphuric ether, your Committee place their chief reliance upon the histories of the recorded fatal cases thought to have been caused more or less by its inhalation, and upon the result of their own efforts to obtain information of all others of the kind known to the profession any where.

With unequalled facilities to examine the literature of the subject under discussion, with all of the chief foreign and American Journals at hand, and the results of a most extensive distribution of circulars before us, no case of which we have knowledge can be cited as unquestionably and unavoidably fatal from the breathing of pure sulphuric ether.*

* In an appendix to this report, every instance of alleged death, or allusion to such, caused by any form of ether, which we have been able to find, is given with all the important facts of its occurrence, or at least so far as they could be obtained. If any other cases, conclusive or not, have occurred, this Committee is not responsible for their ignorance of them, as they have used every means in their power, by notices in newspapers and Medical Journals, and by a correspondence scattered over the United States (long prior to the interruption of mail communication by the rebellion), British Possessions, West Indies, England and Europe, to collect all existing facts bearing on the subjects of their investigations.

1st, That the event should occur while the patient is actually in an anæsthetic state.

2d, That the circumstances of its occurrence should be inexplicable by any phenomena of disease or operation.

Such a death should be unavoidable by any precautions which might be adopted were the patient to be again rendered insensible under similar circumstances. It must, consequently, be sudden and unexpected in manifesting its symptoms, as well as rapid in its progress to a termination. The unmistakeable deaths following the use of chloroform have usually been almost instantaneous; out of 27 which occurred within 10 minutes, 15 took place in less than 2 minutes. No conclusive light can be thrown on the subject by a post-mortem examination; it can only demonstrate a cause exculpating the anæsthetic, there being no pathognomonic signs of death from the use of these agents.

It is clearly unreasonable, therefore, to attribute to an anæsthetic deaths happening long after patients have recovered from its immediate and specific influence. A man is etherized for lithotripsy, and dies of pneumonia a week later; or, a female, anæmic and feeble, suffering from the constitutional effects of a malignant tumor of large and rapid growth, inhales ether for the bloody or tedious operation by which it is to be removed, and dies twenty-eight hours afterwards without rallying. Events of this description are not so infrequent where no anæsthetic has been used as to require any other explanation than such as may be found in the operation or disease itself, and are obviously liable to occur from accidental causes under any circumstances. Yet this is the character of a large proportion of the facts cited by writers as evidence to prove the occasional occurrence of fatal results from the inhalation of ether.

Of the whole number of alleged deaths from sulphuric ether (41) which has been collected by your Committee, 16 survived the inhalation from 3 to 16 days, and 8 from 3 to 50 hours. In all of these, death occurred after the peculiar primary effects of its use had subsided, from a secondary set of symptoms, which were either simply coincident, or else such as are well known frequently to terminate in death when no anæsthetic has been used, and which, moreover, never show themselves in cases of inhalation for slight and trivial operations where the primary effects of ether have been just as well marked as in the severer operations after which they were alone noticed. Of the six cases in which death occurred in less than 24 hours, three, viz., Nos. 3, 8 and 12, have been almost universally set aside as inconclusive; two, Nos. 15 and 21, are manifestly unattributable to the ether. Of the sixth, No. 40, the details are very meagre, but that the death had any connection with the anæsthetic, is at least improbable. In the remaining seventeen cases where death was immediate, or nearly so, the connection between the result and the inhalation is either

problematical or else manifestly absurd and unfounded, except in four instances, viz., cases 1, 25, 34 and 39, where it was due to asphyxia, brought about by wholly unavoidable causes.

The administration of an anæsthetic *in articulo mortis*, as, for example, in an operation for strangulated hernia, may sometimes merge the sleep which it produces into the sleep of death without the termination of the case being hastened by, or attributable to, the inhalation. Patients die from *croup* during an attempt to save life by tracheotomy, and may equally succumb to tetanus or delirium tremens during the inhalation of ether or chloroform. Cases 23, 37, 18 and 30, must be considered as instances belonging to such a category. Every one of the seven cases where no mention is made of the period after which death took place, admits strong doubt of the connection between the result and its cause, or else is insufficient in evidence to produce conviction.

The remaining cases of the table not yet accounted for, viz., Nos. 16, 19, 20, 24 and 29, are no better able to stand the test of examination. The character and circumstances of the operation in the first three certainly absolve the ether. In the 4th (No 24), the nature of the injury as shown by the autopsy and the condition of the patient at the time of inhalation—it being such as in the unanimous opinion of those present would not permit the use of chloroform, together with the fact that he never was fairly etherized—point to some other cause than the anæsthetic to account for the fatal result. The history of, and the statements connected with, the remaining case (No. 29,) equally exclude that from being relied on as an instance of death from ether.

The statements of any author, however distinguished in position, not accompanied by proof in the form of *pièces justificatives*, must remain of no value in face of the direct evidence of your Committee, that their careful search of journals and monographs furnishes not a single conclusive case of death from the proper inhalation of pure sulphuric ether.

III. In contrast with the foregoing evidence, how striking is the admission of the staunchest partisans of chloroform, that no care on the part of the administrator, nor intrinsic chemical perfection, will insure the safety of the person breathing its vapor! Neither the skill of a Dr. Snow, nor the laboratory of Duncan, Flockhart & Co., appear to exempt those who inhale chloroform from the fatal calamities which sometimes ensue wherever it has been used.

In 1857, in a discussion before the Academy of Medicine, M. Ricord spoke of the use of chloroform as “an accident which complicated an operation;” and in 1859, the President of the Paris Société de Chirurgie, M. Hervez de Chegoin, seriously proposed the question, “Whether its use had not better be actually suspended until some method of using it with constant security shall

be discovered, or if it is to remain of so uncertain safety, even renounced altogether?" In 1856, Mr. Erichsen, of London, in a letter to Dr. S. D. Townsend, of this city, said, that "when a patient was fully under the influence of chloroform he was on the verge of death." The epithet "*fleau chloroformique*" is, therefore, no undeserved one, for in any man's hands chloroform may indeed become a scourge whose blows shall fall so suddenly and mysteriously, that before the surgeon's knife is taken up the patient's knife may have passed beyond resuscitation.

No such impressions have ever prevailed with regard to sulphuric ether. No one can die from it as he may die from chloroform. Dr. J. C. Dalton, in a letter to your Committee, speaking of the use of chloroform in the vivisection of animals, says, "I am convinced from my experience, that no caution will prevent its producing a fatal effect, and no care will enable the operator to see when the danger is threatened." On the other hand, with regard to ether, he states, "I never feel any anxiety as to the safety of an animal under etherization, provided I can myself watch the state of the pulse and respiration, or can rely upon the aid of a competent assistant for that purpose. So far as my observation goes, the dangerous symptoms in the case of ether can always be recognized, with ordinary care, in sufficient time to prevent a fatal result." Dr. John Snow declares that "he holds it almost impossible that a death from ether can occur in the hands of a medical man who is applying it with ordinary intelligence and attention."

The more agreeable *odor*, the more *rapid result*, and the smaller *bulk*, are the only compensations offered as an offset to the suspended sword which thus hangs over the surgeon whenever he invokes the aid of chloroform.

The first of these advantages seems too unimportant to be serious; nor are all people of one opinion as to the more agreeable smell of chloroform. M. Roux talks of its nauseating and sickish sweet odor," as being more painful to inhale than that of ether; and M. Sédillot says, that of patients submitted by him "sometimes to the use of ether and sometimes to that of chloroform, all have preferred ether." Dr. Snow esteems the odor of, and the sensations produced by, ether as much more pleasurable than those of chloroform.

Then, too, as to rapid action, a patient may be put by ether into a thorough anæsthetic condition, for the performance of a by no means short or trivial operation, in one minute and a third. Chloroform can hardly do more than that. Is the rapid production of anæsthesia, however, a desirable thing? It is an assertion, based upon statistics, that the early stage of chloroformization is the most dangerous. The agitation and excitement of patients during the first moments of inhalation may explain this, as the rapidity and intensity of anæsthesia are in proportion to the activity of respiration and circulation. Such being the case, a gen.

fler and slower anæsthetic than chloroform ought to carry the patient more safely over this dangerous period, by allowing the etherized blood gradually to penetrate the remotest parts of the system, and thus avoid the prostration of a sudden and violent impression upon the nervous centres. The necessary duration of the anæsthetic condition, when gradually induced, must for the same reason be more satisfactorily insured. A rapid anæsthesia although complete, is apt to be of very short duration, and the patient may recover his sensibility as suddenly as he lost it. This does not occur so frequently when the anæsthetic has taken effect in a slower manner, and may be explained by supposing that a volume of the blood first charged in the lungs passes to the brain and narcotizes the patient, and that the blood which remains in the extremities, not yet touched by the vapor, will, if the process be arrested, in its turn flow through the brain and at once revive him. On the other hand, a more protracted inhalation, such as is usually the case with ether, insures the gradual saturation of the whole circulation. Here, too, is an additional illustration of the important statement before made, that unless an operation is to be short, the surgeon should not be content with the appearance of the first symptoms of insensibility, but push the anæsthesia till the patient snores.

The advantages of chloroform in respect to portability are of little consequence in civil practice. But when an agent so much more compact than ether can be used in military hospitals and on the battle-field, the necessity of reducing baggage to its minimum, demands, it has been alleged, that the less bulky anæsthetic be preferred; and this argument is usually strengthened by a reference to the results of its use in the Crimea, viz., two deaths in 30,000 cases, one in the French and one in the English army. These statistics, apparently so conclusive, will not, as your Committee believe, stand the test of examination. How was it possible to obtain accurate information from every battery, rifle pit, or trench where chloroform was given? What surgeon would not, under the circumstances in which it must constantly have been administered, be liable often to attribute to the effects of an injury fatal results really due to the anæsthetic—especially if it is true, as Dr. Snow states in a communication to Mr. Guthrie, that to “take 10 minims of chloroform into the lungs when insensibility is almost complete, must be attended with danger.” A perusal of a letter of Dr. J. Hall, Inspector General of Hospitals in the Crimea, to the Director General at London, or a paper by Dr. Mouat, Deputy Inspector General in the English Army, read by him in the Crimea, to the Crimean Medical Society, will persuade the reader that more than one death from chloroform occurred during the war, amongst the British troops. Such certainly is that gentleman's impression, and does not appear to have been either opposed or contradicted by the other members of the Crimean

Society. Dr. Lente states that the assertion of Baudens, that only one fatal case happened amongst the French from chloroform, is denied by other surgeons, who themselves saw deaths occur from its use. But whether this is true or not, that 30,000 soldiers should escape the dangers of chloroform, is no argument in its favor. It is well known that a vast number of missiles are thrown in battle without harming a single person, yet no one would pretend that this fact diminishes in the slightest degree the danger in the flight of a solitary bullet. The position of chloroform is precisely identical. If properly administered and economized, the amount of ether required for army use is not very great. The quantity necessary for a regiment, especially one with easy access to its supplies, cannot add much encumbrance to the stores of the hospital department. At all events, it might be used to a certain extent, and the soldier's life in a degree secured against the treachery of one foe not less dangerous than the bullets of the enemy.

The objection to ether on account of its inflammability does not apply with any more force to its use in armies than in private practice, and ordinary precautions will provide against accident from this cause.

The more trivial the operation for which chloroform is inhaled, the more care should be taken in its use, fully two-thirds of the deaths from its effects having occurred during the performance of minor operations. The very opposite of this is true of ether. Only after long, protracted inhalation, during operations accompanied by great loss of blood, or involving great prostration of the general system, can any possible anxiety be felt.

The friends of chloroform admit that "over 150 deaths" have already occurred from its use. This, it is urged, is only about 11 1-2 per year since its first application in 1848. Had as many fatal cases happened in that period from opium, aconite, arsenic, strychnia, or other poisonous drugs, administered by regular physicians, would the use of such agents still be authorized? And how much stronger would the case be, did they produce death in the unexpected and sudden manner in which chloroform strikes its victims!

The objections to chloroform apply with equal force to chloric ether, which is chloroform diluted with alcohol, to amylene, and to the mixture of sulphuric ether and chloroform, in whatever proportion. The dangers of this last are well shown in a case reported in the Appendix, where a boy 5 years of age died within three or four minutes after breathing a mixture of four parts of ether and one of chloroform. The addition of chloroform to ether being unnecessary, only renders dangerous an anæsthetic which is otherwise safe, and is liable to lead to a carelessness in its administration which would not occur with chloroform, and might prove as dangerous as when that anæsthetic is alone used in an

unadulterated state.* Of the new agent, "kerosolene," recently discovered in this city, the remarkable physical properties of which are so attractive, sufficient experience has not yet been had to authorize an opinion upon its future value.

Of the action of anæsthetics on the system, we have but an imperfect and inconclusive knowledge. The following statements are cited from the work of Lallemand, Perrin and Duroy, already referred to. This recent and elaborate treatise depends for its facts upon numerous experiments on animals, and upon such carefully-conducted researches as entitle it to confidence.

1st. Anæsthetics are neither transformed nor destroyed in the system, but are rapidly eliminated from it, chiefly by the lungs, and to a limited extent by the cutaneous surface. Chloroform and amylene being insoluble in water, no traces of them are ever found in the urine. Sulphuric ether being more soluble, a small quantity of this may be detected by re-agents in the renal secretion.

2d. The blood and the organs of animals dead from *etherism* (the name given to this special intoxication by the above-named authors,) contain the anæsthetic agent employed, the presence of which is easily determined by special chemical research; and the following figures show in what proportion the principal viscera contain the anæsthetic, in reference, for each of the agents employed, to the quantity found in the blood.

SOURCE OF ANALYSIS.	CHLOROFORM.	SULPH. ETHER.	AMYLENE.
	•		
Blood,	1.00	1.00	1.00
Cerebral substance,	3.92	3.25	2.06
Liver,	2.06	2.25	1.00
Muscular tissue,	0.16	0.25	Traces.

*It has been said that a mixture of ether and chloroform was employed with great success by the French in the Crimean war. There is no published documentary evidence to prove that such a combination was adopted. No mention is made of it by the Inspector-General at the head of the French Medical Service in the Crimea. On the contrary, a correspondence between that officer and the General-in-Chief leaves no possible doubt as to the exclusive use of chloroform; his general remarks, also, render it certain that no other anæsthetic was substituted at any time during the war. (*Relation Médico-Chirurgicale de la Campagne d'Orient*. Paris, 1857. Pp. 123, 160 and 456.) In none of the Journals of the period, nor in the English Government Report of the Medical History of the War, is there any statement leading to the inference that a mixture of ether and chloroform was used by either army during that campaign, or anything which can authorize the supposition that the word "chloroform" is used as synonymous with "anæsthetic," and therefore includes in its meaning the combination said to have been employed. A point so important could not fail to be set forth in distinct terms in such careful reports as were made after the Crimean war."

From this it appears that anæsthetics accumulate in the cerebro-spinal system.

3d. It is not easy to explain the deaths from chloroform and amylene, or from ether (as sometimes seen in the lower animals,) but it would seem probable, both from the phenomena which they present and the experiments which have been made, that they are the consequence of an abolition of the functions of the nervous system, and not of asphyxia.

The general conclusions which have been arrived at by your Committee may be summed up as follows :

1st. The ultimate effects of all anæsthetics show that they are depressing agents. This is indicated both by their symptoms and by the results of experiments. No anæsthetic should therefore be used carelessly, nor can it be administered without risk by an incompetent person.

2d. It is now wisely conceded, both in this country and in Europe, that sulphuric ether is safer than any other anæsthetic, and this conviction is gradually gaining ground.

3d. Proper precautions being taken, sulphuric ether will produce entire insensibility in all cases, and no anæsthetic requires so few precautions in its use.

4th. There is no recorded case of death, known to the Committee, attributed to sulphuric ether, which cannot be explained on some other ground equally plausible, or in which, if it were possible to repeat the experiment, insensibility could not have been produced and death avoided. This cannot be said of chloroform.

5th. In view of all these facts, the use of ether in armies, to the extent which its bulk will permit, ought to be obligatory, at least in a moral point of view.

6th. The advantages of chloroform are exclusively those of convenience. Its dangers are not averted by its admixture with sulphuric ether in any proportions. The combination of these two agents cannot be too strongly denounced as a treacherous and dangerous compound. Chloric ether, being a solution of chloroform in alcohol, merits the same condemnation.

R. M. HODGES,
GEO. HAYWARD,
S. D. TOWNSEND,
C. T. JACKSON,
J. BAXTER UPHAM.

The foregoing report was accepted, and its conclusions adopted by the Society.

FRANCIS MINOT, *Secretary.*

Dr. C. T. Jackson, one of the Committee, objects and excepts to the clause in this report in which "all mixtures of ether and chloroform" are denounced; viz., to the words, "the dangers of chloroform are not averted by admixture with sulphuric ether," and to the terms, "treacherous and dangerous compound" of ether and chloroform. He believes that a mixture of four measures of ether and one measure of chloroform may be employed without danger, or with very little danger, and that the risks from chloroform are diminished more than four-fifths by this combination. He believes it to be necessary to have an anæsthetic agent of less bulk than ether, and not so dangerous as chloroform, for army uses, and is satisfied that this mixture, which he has employed and prescribed, completely answers the purpose required.

Table of Alleged Deaths from the Inhalation of Ether.

No.	Sex.	Age.	Operation, or purpose for which it was administered.	Period after which death occurred.	Probable cause of death.
1	M.	55	Cancer of breast.	During op.	Asphyxia.
2	F.	21	Tumor of thigh.	40 hours.	Shock and exhaustion.
3	M.	11	Amputation of thigh.	3 hours.	Shock of accident and op.
4	M.	52	Lithotomy.	50 hours.	Shock and exhaustion.
5	—	—	—	—	Case similar to preceding.
6	M.	70	Amputation.	4 days.	Shock, exhaustion, age.
7	M.	—	Amputation of thigh.	6 days.	Pneumonia. health.
8	F.	50	Cancer of breast.	8 hours.	Shock and state of general
9	F.	—	Amputation of arm.	5 days.	Pleuritis.
10	F.	33	Cancer of breast.	16 days.	Erysipelas and bronchitis.
11	F.	47	Amputation of thigh.	15 days.	—
12	F.	60	Amputation of leg.	15 hours.	Shock of accident and op.
13	F.	26	Amputation of thigh.	4 days.	Pyæmia.
14	M.	—	Hæmatocele.	13 days.	"
15	M.	—	Lithotomy.	5 to 6 hours.	Shock.
16	F.	—	Exsect. of entire lower jaw.	During op.	Shock, hæmorrhage, &c.
17	Boy.	—	Lithotomy	Many days.	Intense local inflam.
18	M.	—	Amputation of arm.	3 days.	—
19	F.	55	Excision sup. maxilla.	During op.	Shock.
20	M.	70	Amputation of thigh.	"	Shock of accident and op.
21	M.	—	Amp. at shoulder joint.	12 hours.	Capillary bronchitis.
22	M.	43	"	11 days.	(haps fat. deg. of heart.
23	—	—	Op. strang. hernia.	—	Comm. frac. os inn., per-
24	M.	50	Surgical examination.	15 to 20 min.	Asphyxia.
25	—	—	"	During inhal.	Bronchitis.
26	M.	63	"	4 days.	Tetanus.
27	—	—	Actual cauterization.	During inhal.	"
28	—	—	Tetanus.	—	Disease of the brain.
29	F.	27	Intense headache.	During inhal.	Delirium tremens.
30	M.	32	Delirium tremens.	" "	Arachnitis.
31	M.	—	—	15 days.	Symptoms of meningitis.
32	M.	—	Exhilarating effects.	4 days.	—
33	F.	15	"	12 days.	—
34	M.	—	As an anodyne.	—	Asphyxia.
35	F.	60	Tumor of breast.	3 days.	Acute pulmonary disease.
36	—	—	Opening of an abscess.	3 days.	Exhaustion.
37	M.	82	Lithotomy.	—	—
38	M.	—	Lithotrixy.	—	—
39	—	—	Excision of tonsils.	—	—
40	M.	50	—	4 hours.	Asphyxia.
41	—	—	—	—	—

NOTE.—An appendix, explanatory of each of the 41 cases, was printed with the report in the Boston Medical & Surgical Journal.

THE EPIZOÖTY, LATELY PREVALENT AMONG SWINE,

BY EDWIN M. SNOW, OF PROVIDENCE;

WITH THE RESULTS OF POST-MORTEM EXAMINATIONS,

BY G. L. COLLINS, M. D., OF PROVIDENCE.

Among the subjects intimately connected with the science of medicine, and interesting to every intelligent person, there is none of greater importance than the relations which exist between epizootic and epidemic diseases. That such relations do exist seems to be evident, and numerous facts could be produced to prove it; but the character of these relations and the measures necessary to prevent their effects, are not fully known.

But my purpose, on the present occasion, is not so much to discuss this question, as to call your attention to a single epizootic disease which has prevailed with great severity in some portions of this country, and to some extent, in nearly all portions of it, within the last six or eight years. I do this, confidently expecting that if an interest is excited in this disease, you will not only be led to watch its progress and observe its symptoms, but that you will also endeavor to ascertain the relations which are supposed to exist between it and certain epidemic diseases.

The disease referred to, which, for want of a better name, has been improperly called "Hog Cholera," has prevailed in this vicinity, more particularly among large herds of swine, during each of the last five winters; but has usually terminated with the end of cold weather. During the winter just past, it has been more severe than in any preceding, and has prevailed, more or less, in most of the towns in this vicinity. The present season, it has not, as heretofore, ceased with the cold weather; but has continued until the present time, and during the last five months has destroyed more than 300 hogs in the towns of North Providence, Cranston, and Johnston. During the last week in May, 20 grown hogs and from 30 to 40 pigs died with the disease, at the Field's Point farm, in Cranston, comprising nearly the whole herd at that place. I have also heard of its prevalence in various towns in Massachusetts, during the past winter. In the month of February my attention was called to the subject, and in company with several physicians of this city, visits were made to diseased hogs in Cranston and North Providence. Post-mortem ex-

aminations of hogs which had died with the disease, were made by Drs. G. L. Collins, J. W. C. Ely, and others, a minute account of which will be given hereafter. Particular inquiries were made of the owners and others, in relation to the symptoms and progress of the disease, and I have also obtained facts by correspondence with parties at the West, where the disease first commenced.

The results arrived at, I propose to give briefly.

Symptoms.—The symptoms, as described by non-professional persons, are as various as can be imagined. No two persons agree, and no two cases of the disease are described alike. It is probable that if the disease could be carefully watched by persons accustomed to such observations, a more correct and uniform series of symptoms would be found. By condensing and arranging, as far as possible, the confused and blind accounts given by the owners of the animals, and by combining the results of our own observations, the sensible symptoms are found to be somewhat as follows:

1. *Refusal to eat.*—This is the first symptom usually noticed by those who have the care of the animals, though as will be seen hereafter, it is by no means the first symptom of the disease. The refusal of food continues through the whole sickness; and food of every description, solid and liquid, is refused.

2. *Great thirst.*—This is constant, and large quantities of cold water will be swallowed if it can be obtained. Even after the animal cannot stand alone, it will drink cold water with avidity.

3. After a time, the length of which varies very much, the animal begins to show signs of weakness; reels, staggers, and, in attempting to walk, often falls down.

4. In most cases there is a diarrhœa, with copious fluid discharges of dark, bilious and very offensive matters. In a few cases, there is no diarrhœa; but evacuations of hard, black balls, but in these cases the fluid, offensive matter is often found in the intestines after death.

5. In a few cases there is vomiting; but this is not often severe, nor is it continued for any length of time.

6. The external appearance of the animal is at first paler than usual; but towards the last of the sickness, purple spots appear, first on the nose and sides of the head. These extend along the sides and belly, and between the hind legs. When the purple appearance reaches this extent, the animal soon dies.

7. In many cases, perhaps a majority, ulcers are found on different parts of the body. These were particularly noticed on the inside of the lips and gums, and on the feet, and were often quite deep and excavated. In some cases, these ulcers were seen in the nostrils, and in one case there were extensive ulcerations on the tonsils.

8. In a few cases the legs are swelled, and the animal is lame;

sometimes the ears and other parts of the body are swelled and red; sometimes the eyes are sore and inflamed; sometimes carbuncular swellings are found, and generally the lymphatic glands seem to be enlarged.

9. In most cases the pulse is quickened, the respiration is hurried and difficult, and there is much cough. But in some genuine cases of the disease, there is no perceptible trouble with the lungs, and no important lesions are found in them after death.

10. The duration of the disease, in fatal cases, after the first symptoms are noticed, is extremely variable. Some we have seen which died within two or three hours; others live many days. All judgment, however, in relation to this point, is extremely uncertain. The first symptom observed is usually the refusal of food; but it is probable, indeed it is certain, that the disease is progressing for a considerable period before the symptom is noticed. Cases like the following are sometimes seen: A hog refuses to eat, it soon grows weak, staggers in walking, turns purple on the sides and belly, and dies within two or three hours after the first symptom was noticed. But on examination after death, evidences of extensive disease are found at a stage of development which must have required many days to reach.

Such are, briefly, the sensible symptoms of the disease, as obtained from the descriptions of those who have the care of the animals, and from our own observations. I will now read the description of the symptoms, as published by Dr. George Sutton, of Aurora, Indiana, in February, 1857. Dr. Sutton says:

"The first symptoms that can generally be discovered, the hog appears weak, his head droops, and frequently, in a few hours after these symptoms, diarrhoea commences, which has caused the disease to receive the name of "Hog Cholera." Frequently there is vomiting;—sometimes from the bloody discharges, the disease resembles dysentery. In other cases, the lungs are principally affected, and there is difficult breathing and cough. Sometimes there is inflammation of the throat, and the tongue is also very much swollen and inflamed; sometimes there is bleeding from the nose, and the nose is swollen. In many, the disease appeared to be principally confined to the surface, and sometimes the ear and side of the head were swollen and inflamed;—sometimes one or both legs were inflamed and swollen, and the inflammation extended along the sides or belly, of a deep red color, almost precisely similar to phlegmonous erysipelas. Some had large sores on their legs, resembling carbuncles; others had dangerous sores on their sides or flanks, from 3 to 6 inches in diameter; some appeared delirious, and others blind. These symptoms were combined in almost every possible variety; death took place in from one to five days. Out of a pen containing 100 hogs fed on slops, 33 generally died, and it required about eight weeks for the remainder to recover from the disease."

The symptoms, as described by Dr. Sutton, have a general similarity to those observed in this vicinity ; sufficient to show that they refer to the same disease. * * * * *

[Nine post-mortem examinations were made by Dr. George L. Collins, of Providence, and reported in Dr. Snow's paper, with the following summary by Dr. C.]

" We have here, then, the results of nine post-mortem examinations. Five of them were made upon animals dying of the disease, and four upon animals in the last stages of the disease, which were killed for examination. The latter were good representative cases, and for purposes of classification may be reckoned with the others.

In grouping, therefore, the pathological appearances observed, we find that purpuric spots upon the skin existed in six cases ; in three of which they were very extensive. In two cases, purpuric spots were observed upon the serous membranes.

The feet and legs were not particularly examined, in the first five cases. In the remaining four, two were found ulcerated ; one was lame about the knee joint, and one was well.

The mouth was not examined in three cases. In the remaining six, four presented ulcerations. In one there were ulcerations upon the tonsils, at the base of the epiglottis, and within the nares ; where there was also a false membrane. This was, in fact, the only case where the throat and nares were dissected.

The heart was healthy, excepting effusion into the pericardium, which in only one case was considerable.

The lungs in two cases were almost healthy. In seven there existed hepatization ; in five of which it was observed, to a greater or less extent, upon both sides. In one case, one lung was tuberculous—and in another both. In every case, where hepatization was found, there existed, also, pleural adhesions. Where only a part of a lung was hepatized, with one exception, it was the anterior or depending portion : the rule being reversed from that observed in the human subject.

The stomach was generally in a healthy condition. In one case there was ulceration of the mucous surface to a small extent.

The small intestine was in a healthy condition. Worms were found in two cases.

The large intestine was, most frequently, in a state of disease. In five cases it was ulcerated, to a greater or less extent : and in six it was thought to be somewhat inflamed and softened.

The liver was generally sound. In one case it was a good deal congested.

The kidneys were, in every case, pale and of a yellowish color : this condition was well marked. In two cases the microscope showed them to be fatty.

The bladder was generally healthy.

The urine was examined in four cases ; in all of which it was more or less albuminous—in one case very much so. In two of these cases, granular and epithelial casts were observed ;—in the other two, none. In two cases, in which the lungs were greatly hepatized, the urine was tested and found deficient in chlorides.

In two cases, serum existed in the abdominal cavity, and also in the thorax."

It would be superfluous, if I were able, to add anything to the preceding full description, by Dr. Collins, of the post-mortem appearances ; but it may be interesting to add a brief account of these appearances as described by Dr. Sutton, of Indiana, four years since. He says :

" On opening the bodies, I found the appearances of the disease as various as the symptoms were different. I examined 47 hogs that had died of the disease, and scarcely found two that presented precisely the same appearance. In every instance there was evidence of a diffusive form of inflammation, which was not confined to any particular tissue. The skin was generally of a purple appearance, and in cutting through those parts which were most inflamed, the cellular tissue was infiltrated with serum, and the skin was swollen. In nearly every case the mucous membrane of the stomach is more or less inflamed, presenting a bright red appearance, tumid, and frequently softened. Sometimes there was an effusion of blood into the stomach, and this organ was frequently found distended with food. In all cases where there had been diarrhœa or dysentery, the mucous membrane of the large or small bowels presented evidence of inflammation. Sometimes the bladder was inflamed, and occasionally contained an effusion of blood. The peritoneum, in 18 cases, presented marks of inflammation—there was effusion of bloody serum—and adhesions between the intestines, and between the intestines and sides of the body. In three cases, there was effusion of blood into the peritoneal cavity. Suffice it to say that I found the liver, the lungs, the pleura, the peritoneum, the mucous membrane of the bronchia, the trachea, and larynx, all at different times bearing marks of inflammation ;— frequently one or both lungs were engorged or hepatized, and adhering to the ribs. The lymphatic glands were generally inflamed, or greatly congested, resembling lumps of coagulated blood.

These are some of the facts revealed by our dissection, which show this disease to produce a diffusive form of inflammation which attacks the skin, the cellular, the serous, the mucous, and the glandular tissues. It spreads along these tissues very similar to the manner in which an erysipelas spreads along the tissues in the human system—and in some respects, resembles that disease."

Such are the facts relating to the symptoms and post-mortem appearances of this disease, as learned from my own observations and from the observations of others. Perhaps it might be the part of wisdom to confine myself to the facts, and to refrain from entering upon the field of theory and speculation. But this plan would hardly satisfy your expectations, and would certainly fail to satisfy my own inclinations. Besides, it seems to me that the facts are sufficient to justify something more than speculations, if not to establish a theory on sure foundations.

The first question which arises in the minds of those who are acquainted with the facts, as well as in the minds of those who know nothing about them, is this: What is the disease? In this case, as in all similar cases, those who have the least knowledge upon the subject, are the most positive in their opinions, and are ready to state at once the nature of the disease, and to give it a definite name.

This, after a careful study of the facts, I cannot do. I know of no name which would convey to medical men, and certainly not to others, a precise idea of the nature of the disease. Yet, it seems to me, that the facts as already given cannot fail to suggest to those familiar with diseases, some idea of the character of the disease under consideration.

As we read of enlarged glands, ulcerated intestines, carbuncular swellings, inflamed and hepatized lungs, purpuric spots, and other similar symptoms as found in animals in this disease; the mind of the physician at once reverts to pyæmia, phlegmonous erysipelas, typhus fever, and other like forms of asthenic disease in the human system. Here I am satisfied we have a clue to the true nature of this disease. It is a disease primarily of the blood, producing a depraved state of the system generally, a genuine typhus disease: call it *typhus fever*, if you choose, though this name is not at all satisfactory. The diarrhœa, which often occurs in typhoid fever, is not a "Cholera," neither is the diarrhœa of this disease in hogs, a "Hog Cholera," but it probably arises from the same cause as the diarrhœa in typhoid fever. The disease is in the system generally:—the diarrhœa is a local complication, or effect, of the general disease. Neither is this disease a pleuro-pneumonia, properly, though there are pleurisy and pneumonia existing in perhaps a majority of cases. It is a general disease of the system: the pleuro-pneumonia is only a local complication or effect of the general disease. It is well known that cases of pyæmia, as well as of low typhus and typhoid fever, in human subjects, are often complicated with pneumonia. So in this disease, the pleuro-pneumonia, the diarrhœa, the ulcerations in the large intestines, the purpuric spots, the ulcers about the mouth, feet and elsewhere, are only local effects of the general disease of the system.

The symptoms and post-mortem appearances of the disease

among cattle, which has caused so much excitement in New England during the past two years, under the name of pleuro-pneumonia, are almost precisely the same, so far as they relate to the lungs, as in the disease among swine which we have examined. Whether the pathological changes in other organs of the body are similar in the two diseases, I am unable to determine. I have never seen the disease in cattle, called pleuro-pneumonia, and in all the accounts of post-mortem examinations published by the Legislative Committee of Massachusetts, there is no report of the examination of any organ in the body but the lungs, except an occasional, incidental allusion to the heart and liver. Though diarrhœa, and "scouring of green fetid dung," were described as marked symptoms of that disease, there is no published evidence that the intestines were examined in any case.

Those who have seen the disease among swine, and who have read the evidence relating to pleuro-pneumonia, so called, must at least have very strong suspicions that the diseases are similar, and that the term pleuro-pneumonia is a misnomer.

The Commissioners of Massachusetts, in their investigations of the cattle disease, seem to have taken it for granted that it was a pleuro-pneumonia only, and that it was contagious.

Though want of time forbids the discussion of this question, I must think that there are not sufficient grounds for this opinion. It is comparatively but a few years since the belief was universal that yellow fever was contagious, and the most oppressive and inhuman restrictions, handed down from the dark ages, were enforced to prevent the disease, in every part of the civilized world. The same was true of cholera; and in this State, within the memory of most of those before me, persons have been forbidden to land, because they came from a neighboring city where cholera existed.

And yet the enlightened opinion of physicians of the present day has formally condemned, and will soon entirely put an end to, the quarantine of *persons* on account of yellow fever; while the idea that cholera is contagious, is, so far as I know, abandoned by all intelligent physicians at the present time.

So, I firmly believe it will soon be with reference to the disease among animals which we are considering. But this disease is an epizooty, or perhaps we may more intelligibly say, (though the expression is incorrect,) that it is an epidemic disease among animals.

If an epidemic disease, then its primary cause is similar in its operation to that of other epidemics. What this primary cause of epidemics is, whether animal, vegetable or chemical, no one at the present day, can satisfactorily explain. It probably exists in the atmosphere, progresses over a greater or less extent of country, in accordance with laws with which we are not acquainted, and alights upon the earth and produces its effects wherever,

within the limits of its progress, it finds local circumstances adapted to its propagation. The following, then, as I understand the subject, are the causes of this disease among swine, and probably, also, of the disease among cattle, as well as of epidemics among men, viz. :

1. An epidemic atmospherical poison.
2. The local circumstances adapted to receive and propagate the poison existing in the atmosphere.

The co-existence of both these causes is essential to the development of the disease. When both these causes are present in any locality, and healthy animals are brought within the limits of their influence, a certain portion, sometimes all, will contract the disease. Both the causes above named may exist in a locality whether there are any animals there or not. *This is infection*, and this is the manner in which epidemic diseases are propagated. That *it is not contagion*, is proved by the fact that diseased animals, when removed from the infected locality to places where the two causes above named do not exist conjointly, *cannot possibly communicate the disease to other animals*. I know of instances in which this experiment has been tried, in this disease among swine.

Contagion originates only in living animal bodies, and communicates disease from the diseased animal itself, wherever it is present, in any and in all localities; and the animal itself, independent of atmospheric or other external circumstances, is the source from which the disease is propagated, either directly or indirectly.

Infection originates in inanimate bodies, and can increase and communicate disease *epidemically*, only in localities where the atmospheric poison is present.

But it was not my intention to enter upon the discussion of this highly interesting subject.

If then this disease be, as I fully believe, an epidemic, infectious disease, caused by an atmospheric poison acting in combination with local conditions adapted to a propagation of the poison, the indications for its prevention are plain. They are, to remove as far as possible the causes.

The cause existing in the atmosphere cannot be avoided except by removal beyond the limits of its existence; and this is not usually practicable. But the local conditions necessary to propagate the disease can, to a very great extent, be prevented.

These local conditions are, briefly, impure air arising from filthy pens, and particularly from crowded pens, combined with unhealthy food and the want of pure water. It is not necessary to show the importance of preventing these, nor the manner in which it can be done.

With regard to the *treatment* of the disease, very little need be said. I do not believe that treatment of any kind is of any value whatever. If successful, it will cost much more than the animal

is worth : but it will very rarely, if ever, be successful in removing the disease from the system, and success in lengthening the life of a diseased hog is hardly worth the trouble necessary to secure it.

If, however, the trial is desired, the indications for treatment are obvious. They are to support the system by stimulants and tonics, with pure air and pure cold water, and nourishing healthy food. Chlorate of Potash in large doses has been recommended.

The victims of this disease among swine are already numbered by hundreds of thousands, if not by millions, in the Western and Southern States, and we shall undoubtedly see more of it in New England. In February, 1857, Dr. Sutton, of Indiana, stated that 60,000 hogs had already died with this disease within 100 miles of Cincinnati.

The subject is also important and of the highest interest in view of the relations, to which I have already alluded, of this disease to the disease among cattle, and to certain epidemics which afflict the human family. The subject is also not without interest in its relations to the supply of food for cities. In my opinion, pork in its best estate is by no means desirable for food : and diseased pork is certainly less so. I have already had occasion to know that all persons are not governed by the Christian rule of doing as they would be done by, in this respect : and that some persons will send pork to the city markets which they would not eat themselves.

I have good reason to believe that on the appearance of the first symptoms of the disease, many hogs are killed, to save their value to their owners, and that the pork-eating inhabitants of our cities are, from time to time, solving the problem whether the flesh of diseased hogs is injurious to health. (*Trans. Rhode Island Medical Society*, 1861.)

RESEARCHES ON ASPHYXIA ;

WITH OBSERVATIONS ON THE EFFECTS PRODUCED BY THE HOT BATH IN ASPHYXIATED ANIMALS
AND ITS USE IN RESTORING SUSPENDED ANIMATION.

A paper on this subject, by Dr. A. T. H. Waters of Liverpool, was recently (May 14th) read before the Royal Medical and Chirurgical Society. Amongst the numerous researches that have been made with reference to asphyxia, the author was not aware that any had been directed to one of the subjects he had investigated. Physiologists are agreed as to the order in which the arrest of the vital action takes place in asphyxia, but not as to the

duration of the heart's action, nor yet as to the best mode of treatment in suspended animation. The different societies, whose aim is to save life, issue rules of the most opposite character for the restoration of those apparently dead.

Two important points remain to be decided: First, the period after asphyxia has commenced during which treatment is likely to be successful in restoring animation, and, second, the value of the hot bath as a remedial agent. Experiments had been instituted by the author with reference to the following questions:— 1. How long does the heart continue to beat in asphyxia? 2. What are the effects of the hot bath on an asphyxiated animal? First, after all respiratory movements have ceased, and are not re-excited; secondly, when respiration has been re-excited, and is being feebly carried on.

It is difficult to decide with any degree of certainty with regard to the first question. Certain circumstances tend to throw a doubt on the generally received opinion, that "in asphyxia the movements of the heart cease in a few minutes after the cessation of the functions of animal life." The second question is more readily answerable, but the author was not aware that any experiments bearing directly on it had been performed previous to his own. The subjects of experiments were dogs, cats, and rabbits. They were drowned in water varying in temperature from 40° to 50° Fahr., and in one instance 36°. On being removed from the water after every external symptom of life had disappeared, they were opened by the removal of the anterior part of the chest, so that the movements of the heart could be observed. Some of the experiments were parallel—i. e., two animals of the same age and size were chosen, and after being drowned in the same way, were opened at the same time; the difference being that one animal was, previous to being opened, put into the hot bath at 100°, and the other was left exposed to the atmosphere. The number of animals experimented on, as just mentioned, was 28; of these, two being set aside which were submerged for an hour, in 18 the heart was found beating when first observed: in 8 its action had ceased.

The animals were opened at periods from the commencement of asphyxia, varying from the fifth to the thirteenth, and in one instance the twenty-first minute. The average period during which the ventricles continued to contract was nineteen minutes: the longest period was in a rabbit—forty-five minutes.

With regard to the first portion of the second question, the morbid appearances of the animals put into the hot bath were compared with the animals not so treated. In the animals put into the bath, the lungs were much more congested, more full of blood: they were firmer in substance, and specifically heavier than those not so treated. Both sides of the heart were loaded with blood. In some instances the blood was coagulated in the ves-

sels of the lungs, the systemic veins and the cavities of the heart. The blood was generally less fluid than in the animals not put into the bath, and coagulated more readily when removed from the vessels. In no instance did the bath produce a respiratory effort, or any movement whatever on the part of the animal; it seemed further to shorten the duration of the heart's action.

With regard to the second portion of the second question, experiments of the following character were performed: Animals were drowned in water from 45° to 50° Fahr.; they were kept under water, some for one minute, some for one minute and a quarter, and one for two minutes. When removed from the water, they were placed on the table, exposed to the air. They soon began to breathe feebly. In order to compare the effects of the hot bath with those where all treatment was omitted, some of the animals were left to themselves, and others were put into the bath as soon as respiration had been re-excited. Thirteen experiments were performed—twelve on rabbits, and one on a cat. Of the thirteen, seven were put into the hot bath; of these six died, at periods varying from two to twenty hours after submersion. Six animals were left to themselves; of these four recovered and two died, both between the eighth and twentieth hour after submersion. The animals which had died after being put into the hot bath presented the following morbid appearances: The lungs were dark colored, full of blood, firm, almost liver-like in appearance. In some instances portions sank in water; the air-tubes were empty; there was blood in all the cavities of the heart, in one instance coagulated. In the animals which died after submersion, but which were not put into the hot bath, the lungs were somewhat firm and congested, but to a less extent than in the others. The experiments appear to the author to be sufficient to establish the principle of the injurious influence of the hot bath, both when asphyxia is complete and when recovery is commencing. In the former case, the bath momentarily increases the circulation; but respiration being in abeyance, the lungs become loaded with blood, and the left side of the heart distended. In the latter case, respiration being imperfect, engorgement of the lungs takes place, and subsequent arrest of the heart's action.

The following conclusions are drawn by the author from his experiments: 1. That in asphyxia by submersion, the ventricles of the heart do not, as a rule, cease to contract "in a few minutes after the cessations of the functions of the animal life," but that in many instances their action continues for a very considerable period, and that serves to explain how recovery has taken place after lengthened submersion. 2. That in cases of asphyxia, where respiration has altogether stopped, the effects of the hot bath are: to produce an accumulation of blood in the lungs and in the left side of the heart, together with a tendency to coagulate on the part of the blood; that it does not tend to prolong the action of

the heart, but rather to paralyze its movements, and diminish the duration of its contractions: that it does not excite respiration efforts, and prevents artificial respiration being properly carried out. 3. That in cases of asphyxia, where respiration has been re-excited and is being feebly carried on, the hot bath, although in some instances it seems to have no immediate bad result, yet has a tendency to produce a fatal issue some hours after its use, by causing extreme congestion of the lungs, together with consolidation and collapse of the pulmonary tissue.

The following practical inferences are drawn from the above conclusions: 1st. That efforts to restore animation should be made in all cases where asphyxia has not been of very prolonged duration. 2d. That the prolonged use of the hot bath in asphyxia is not only inefficacious, but dangerous; and that its temporary use appears to be attended by no direct benefit. So far as any means similar to the hot bath are likely to produce respiratory movements, the alternate dashing of hot and cold water on the body is probably the most efficacious. 3d. That it appears safer practice to omit all artificial treatment, when respiration is going on feebly, than to make use of the hot bath. 4th. That in the treatment of asphyxia all efforts should be primarily directed to restoring or continuing the respiratory movements: and all measures tending to load the lungs or embarrass the respiration should be avoided. The author believes that the best method of performing artificial respiration we are yet acquainted with, is that recommended by Dr. Marshall Hall. (*Medical Times and Gazette*, May 25th, 1861.)

ABSTRACT OF CURRENT MEDICAL LITERATURE.

AORTIC ANEURISM, IN WHICH A COMMUNICATION WITH THE PULMONARY ARTERY WAS RECOGNISED BY MEANS OF PHYSICAL DIAGNOSIS.—James S—, aged thirty-five, married, a railway porter, was admitted into Queen's Hospital, Birmingham, on May 5th, 1861. For four years he had suffered from piles, and for six months had lost much blood from them, and to this he attributed the debility and wasting for which he sought assistance. Four weeks before admission he had to make a sudden and violent exertion, after which he felt faint for a little while, but thought no more of it. He never had any palpitation or cardiac difficulty: was affected with a little dyspnoea and slight cough with watery expectoration.

Physical Examination.—Cardiac dulness increased vertically.

Apex seen and felt in the sixth intercostal space. Over the cartilage of the left fourth rib a loud murmur replaced both sounds, that with the second being of a hissing character, and so prolonged as to continue till the commencement of the next first sound. Usual second sound inaudible there. Marked thrill at this spot coincident with second murmur. First murmur, a loud bruit de soufflet. Both murmurs heard in the carotids and over the upper chest. At the apex, a single murmur with first sound: normal second sound very distinct. No venous distension. Thrill in the carotids, pulsation of which was visible. Mucous râles in back of both lungs. Liver enlarged.

From this combination, Dr. Wade concluded—1st, that blood escaped from either the aorta or pulmonary artery during their systole; 2d, that it was probably from the aorta that the blood escaped; 3d, that it did not regurgitate into either ventricle; 4th, that it regurgitated into one of the auricles or else into the pulmonary artery; 5th, that it did not regurgitate into the left auricle; 6th, that the opening was into the pulmonary artery, rather than into the right auricle; 7th, that the communication was due to aneurismal perforation of the aorta at or near its origin.

The patient stayed in the hospital for two or three weeks, and went back to work, declaring himself well. On the 14th of June he was seized with faintness and violent cardiac perturbation, which continued till the 28th, when he died. The post-mortem examination showed an aneurism of the size of a small hen's egg very near the root of the aorta, with a rounded, smooth, thickened opening into the pulmonary artery at its origin, and another, fissured, ragged, evidently recent one into the right ventricle. The valves were all healthy. Dr. Wade did not see the patient alive after leaving the hospital. (*London Lancet.*)

PHTHISIS; TUBERCLE IN THE CEREBELLUM.—The following case occurred under the care of Dr. Cotton, at the Hospital for Consumption, Brompton:—

J. M——, aged twenty-eight, gentleman's servant, admitted on the 29th of November, 1860. He had been suffering under ordinary chronic phthisis for seven months. At the time of admission there was much cough, with purulent sputa occasionally tinged with blood, together with night-sweats and emaciation. Pulse about 90; tongue furred. The physical signs were indicative of a considerable cavity and much tubercular deposit in the right lung. At the apex there were cavernous breathing and rhonchus, and abundant sub-crepitant râles throughout the rest of the lung. No improvement seemed to follow any kind of treatment; the cough became worse, the strength less, and the emaciation more evident.

On the 23d of March, 1861, the patient complained of headache,

unattended with gastric disturbance, uninfluenced by change of posture, and of wearying and continuous character. The tongue was moist: the pulse 80, and full, and there were no symptoms of pyrexia. Until the end of the fourth day from the onset of headache, he suffered continuously, and had little or no sleep, but he was quite sensible.

On the fifth day (March 29th,) vomiting took place, the headache increased, the patient became alternately restless and lethargic, and complained of cramps in the lower extremities. Both legs were numbed, there was deafness of the left ear; the pupils were large, sluggish, but equal; the pulse was 80, soft and regular. These symptoms gradually increased until April 2d, when the pulse was only 64, and irregular; the pupils rather contracted: the skin hot and dry; and slight delirium presented itself.

The following day the patient became unconscious, the respiration stertorous, and the case terminated. A few hours before death the mouth was drawn to the right side, and the left eyelid was raised with more difficulty than the right.

The autopsy, which took place thirty-six hours after death, revealed a large vomica at the summit of, and a considerable amount of tubercle in, the right lung. The membranes of the brain were somewhat opaque and highly congested; and upon the pia mater at the base of the organ were a few minute and scattered tubercular granules. The cerebral substance itself was soft, and presented on section numerous red points; and a considerable quantity of clear serum escaped from each ventricle. In the right lobe of the cerebellum, at the junction of the white with the grey matter, was a tubercular mass, about the size of a small hazel-nut, of the consistence of firm cheese, and of a yellowish-green color: the surrounding substance of the cerebellum seeming to be unaffected. (*Ibid.*)

SCIRRHOUS CANCER OF THE MALE BREAST.—Disease of any kind rarely attacks the mammary gland in males, in consequence of its being merely rudimentary. When observed, however, it is usually in the form of scirrhus cancer. Velpeau has met with about a dozen examples, in a few of which the encephaloid variety was present. Colloid cancer has not been seen in the male breast. Mr. Birkett has observed a few cases of scirrhus, and he remarks, in his work on "Diseases of the Breast," that it is developed behind the mamilla, and does not appear to assume so active a character as in the female. Dr. Walshe describes two specimens of it in a well-marked form, in both of which the similarity of the disease to ordinary scirrhus of the female breast is very striking. He states that it commonly originates in the nipple or its immediate vicinity. In Mr. Moore's patient, it commenced at the outer side of the nipple; in Mr. Wormald's, in the nipple itself; and in Mr. Fergusson's, apparently in the mammary gland.

In the male or female, scirrhus is a malady usually attending advanced age ; but instances sometimes occur in which it is seen in comparatively early life. Mr. Lyford met with one at twenty-three years of age ; Dr. Walshe speaks of another at thirty, but in all the other cases of which he had cognizance of the age, it varied between fifty and seventy years. The three cases we now bring under observation were of the respective ages of forty-two, fifty-two and thirty-five years.

Velpeau states that extirpation, or the destruction by caustic, of cancers of the mamma, offer more chances of success in men than in women. He narrates several instances in which the cure was permanent. When the axilla and the neck contain co-existing cancerous tumors, a recurrence may sooner or later be expected

[The first case is Mr. Moore's, above referred to. The patient was forty-two years of age, the tumor a year old, the nipple retracted, one of the axillary glands and some lymphatics along the edge of the pectoral muscle enlarged and indurated. After removal, they all presented under the microscope the well-marked characters of scirrhus. The details we omit. The second and third cases are given below]

In the present instance, the patient was a man, aged about thirty-five years, said to be a clerk in some house of business, who was admitted in the middle of July. He appeared to be strong and well-nourished, and no evidences of cachexia were observed, though usually seen in cases of cancer. About seven months ago a tumor was first noticed in the left breast, and this steadily increased until it involved the whole of the gland, which is now the size of half an orange at its base. He had applied for advice to a surgeon before entering the hospital, who recommended the application of an ointment for the purpose of causing absorption : it had the effect, however, of ulcerating the skin, which was followed by the protrusion of a fungoid excrescence at the nipple, the size of a walnut, and possessing the usual appearance of a scirrhus tubercle. There was, also, a tumor, as large as a hen's egg, situated on the anterior margin of the axilla, which was evidently one of the axillary glands enlarged.

The nature of the disease was so clear, that Mr. Fergusson recommended its removal by operation with as little delay as possible, and this was carried out on the 20th of July. The entire gland, including the nipple and fungous growth, was taken away by an elliptical incision : the latter was continued by a single line over the tumor at the margin of the axilla, which also was excised from a surrounding mass of loose areolar tissue and fat. Subsequent examination showed the nature of these tumors to be well-defined scirrhus cancer. The wound, although large, was closed by sutures, the chest was bandaged, and the patient removed to his ward. Since the operation, we learn he is going

on most favorably, and there is no doubt that a good recovery from the operation will follow.

We may observe that there was no evidence in the history of this patient of any blow or other injury having given rise to the tumor; its origin was spontaneous.

In the month of May, a man presented himself at the hospital with a small but very hard swelling, superficially ulcerated, in the left breast. From its appearance and general character, it was diagnosed to be scirrhus. With this exception, the man's general health was good. His age was fifty-two. He stated that twelve months ago he first noticed a redness of the nipple, which he ascribed to irritation produced by his braces. It had become excoriated about four months before this, but it was entirely free from pain. In the axilla of the same side there was an enlarged but soft gland, which was clearly made out to be the result of the irritation of a sore on his hand.

Mr. Wormald advised removal of the breast, but the man would not consent to it. (*Ibid.*)

PROLAPSUS ANI IN CHILDREN, TREATED BY SUBCUTANEOUS INJECTIONS OF SULPHATE OF STRYCHNIA.—M. Foucher, surgeon to the Foundling Hospital, has lately made public the results he has obtained by means of subcutaneous injections of sulphate of strychnia in the prolapsus ani of children. This not uncommon affection is frequently found to be very obstinate, and to resist for a length of time the astringent injections and other such means ordinarily resorted to for its removal: so much so, that electricity applied to the sphincter, cauterization, and even excision of the relaxed mucous membrane, have been registered amongst the therapeutical measures to be tried in rebellious cases. M. Foucher's method is to insert the canula of a Pravaz syringe at a point one-third of an inch outside the anal aperture, and to inject ten drops of a solution composed of three grains and a half of sulphate of strychnia dissolved in six drachms of distilled water. In one case, after two injections, performed with an interval of twenty-four hours between them, the cure was permanent during the space of six weeks, when the child left the hospital. In a second case one application sufficed: in a third case two injections wrought a cure; and in a fourth a successful result was attained by one alone. M. Foucher's method is, he says, perfectly painless and exempt from danger, and is certainly worthy the attention of the profession. (*Paris Correspondence of the Lancet*.)

CONSERVATIVE SURGERY.—In the summer of 1846 (I was then living in Leicester-place) a servant drove up to my door in a street cabriolet—she had come from Wellington-street, Strand.—and requested me to return with her to see her master, a gentleman of more than seventy years of age, who had fallen down and seri-

ously injured himself. Anticipating some occasion for strapping, lint, &c., I stayed long enough to provide myself with them, and then returned with her as quickly as the crowded state of the thoroughfares would permit. On arriving at the house I was hurried up to the drawing-room, where I was met by my patient, who, holding a handkerchief to his face, said, "Doctor, I have cut my nose off." I was at the moment rather incredulous, but his daughter soon removed all doubt as to the nature and extent of the injury by showing me the separated portion, which she had picked up from the floor. It was black, cold, and covered with grit and dirt. On examining the wound, I found that the whole of the fleshy end of the nose, together with the alæ and septum, were clean cut away, and the white end of the cartilage exposed. The upper lip was divided transversely throughout its whole extent, and hung down over the mouth. It appeared that this gentleman, on going up stairs, had stumbled near the upper step, and, trying to recover himself, had fallen forwards against a wooden flap placed at the drawing-room door, the sharp edge of which had come in contact with his nose, first compressing it and then separating it from the face.

For a moment I hesitated what to do, but thinking the separated part would be as good a dressing as any other to the exposed surface, and that the patient's hope (though I had none) of its reunion would give time for him to reconcile himself to his ultimate loss, I determined on readjusting it. This was easily enough done. The grit was wiped from it, and being carefully replaced, it was retained *in situ* by adhesive straps. The edges of the wound of the lip were brought together, and kept so by similar means.

On calling the next day, I observed that the end of the nose—which I had purposely left exposed—had lost the deep-black color that it had when replaced, and bore evident signs of circulation going on in it. There was no discharge from the wound. On the next day, appearances were the same; and on the third, the dressings were removed, when I was as much astonished as gratified to find that union had taken place throughout the whole extent, and the scar that was left was scarcely perceptible. The lip had also united.

Now the time which had elapsed between the separation and the readjustment of the divided parts could not have been less than three quarters of an hour. (*J. Nichols, M. R. C. P., Lond.*)

In connection with this case of conservative surgery, we translate from the *Campagne de Russie* of Baron Larrey, the following:

A Russian colonel had received from one of our troops a sabre-cut which had completely separated the nose from its base. The sabre striking obliquely, had cut through the superior maxillary bones, completely down to the mouth through the hard palate, so that the nose and anterior portion of the maxillary bone fell over upon the chin, attached and suspended only by a narrow strip of

flesh at the corners of the mouth. We could see, on one side, the whole extent of the nasal fossæ and the cavity of the mouth, without its row of teeth; on the other, the flap, consisting of the whole nose, the upper lip and palatine arch, lying over on the chin. One of my assistants, having found the flap cold and attached only by the two points which I have mentioned, was going to remove it and dress the wound when I arrived. I put aside the surgeon's scissors, and after examining the flap prepared to replace it. Removing the clots from the nasal fossæ with some difficulty, I then detached that portion of the palatine arch which was attached to the flap, which included the anterior half of the upper alveolar arch. The line of the wound on one side was between the canine and the first bicuspid teeth; on the other, between the two bicuspids. I removed also from the flap many pieces of the nasal bones and processes of the maxillary bone. I then restored the nose and lip to their place, retaining them with the interrupted suture, beginning at the bridge of the nose, and descending successively on the two sides, until the edges were united by ten parallel sutures, and covered the whole wound with a light compress wet with salt-water. I introduced into the nostrils two pieces of large-sized gum-elastic sound, to preserve their shape and size—having united the sounds at their outer end by a thread to keep them in place. Graduated compresses were placed on the sides of the nose, retained by a bandage, which completed the dressing.

I had the satisfaction of learning, on my return from Moscow, that this officer had entirely recovered, and without any deformity. The cure is remarkable from the severity of the wound and the scarcity of vessels which keep up communication between the flap and the integuments of the face. Vitality was restored in the nose, and its point of union was exact and perfect.

GUNSHOT WOUNDS OF THE FACE.—Dr. Stromeyer states that he has seen many cases where a bullet has traversed the root of the nose, or somewhat deeper beneath it, without the slightest symptom of concussion of the brain showing itself, as is otherwise frequent in fractures of the nasal bones: these wounds heal rapidly, and without extensive exfoliation. The wounds are considered by him just as trifling where the bullet entering the upper jaw of one side traverses it and the nasal fossæ, and escapes through the opposite cheek: both antra of Highmore being frequently opened. Still more frequent are cases where the bullet strikes upon and injures the upper maxillary bone anteriorly, and makes its exit in the neighborhood of the ear: in these a paralysis of the facial nerve is common on the injured side, fully disappearing after some months, so that we must probably refer it to a contusion of the nerve. Balls remaining in the antrum Highmorianum often give rise to no accidents. (*Medical and Surgical Reporter.*)

CASE OF TETANUS OF FOURTEEN MONTHS' DURATION.—Wm. L.—, aged thirty six, a strong fisherman, but with hæmorrhagic tendency, early in December, 1859, had a cough of unusual violence. An act of coughing suddenly ceased, and the head was at the same time spasmodically thrown backwards, with great pain in the neck. Complete tetanus gradually developed itself in every form, and lasted, with such intermissions as were evidently the effect of remedies, till the middle of January, 1861, nearly fourteen months. Treatment of every kind was tried. The prolongation of life seemed to be due to the free breathing of chloroform and the constant use of morphia, both by the mouth and by injection under the skin. A small clot was found on the front of the cervical part of the spinal cord. (*London Lancet*.)

TREATMENT OF FRACTURES.—There is no one thing probably which better exemplifies the "progress of surgery," than the present management of fractures. With what uncouth lumbering machines the unfortunate patients used to be encased, and how bed-ridden they got, whereas now, the dressing is so light, strong, and safe, that the man with a broken leg walks in the garden. Our New York surgeons, though, seem not yet all to appreciate this style. They revere antiquities; and I will venture to say that there are more of the old clumsy fracture apparatus, now used in the three New York Hospitals, than in all of the sixty-two like institutions of Paris.

The modern substitutes for *planks*, etc., are of course familiar to you. Dextrine, gelatine, caoutchouc, plaster of Paris, are all in vogue. The last-mentioned is evidently the best, for it has been under trial since the time of the elder Larrey, who, it is said, first used it; and to this day it stands the most popular. The methods of application have naturally changed as experiences accumulated. Larrey, for instance, moulded the limb in it—others put on a saturated circular bandage—others again dusted the powdered plaster over wet bandages—others still applied it with a trowel as on a wall; and so on to the end, or rather, until the arrival of Maisonneuve. The question is now settled, and all other modes are obsolete. M. Maisonneuve had once the good luck to receive a fracture of the leg, and so this method he first planned on his own person.

For example and explanation, let us suppose a broken tibia. He orders four coarse cloths, longer than the leg, and each so broad that when folded three or four times, they will be respectively reduced to a breadth of from two to four inches—the breadth, of course, varying with the limb under treatment. After these cloths have thoroughly soaked in the fluid plaster, they are taken dripping from the vessel, and directly applied along the sides of the limb. The lower ends of three of them embrace the foot and lap intimately on the sole. The front one passes on the

dorsum to the toes. A circular bandage, saturated or not, is then quickly rolled up to the knee, and perhaps down again to the foot. When this bandage has not been soaked in the plaster, the apparatus is called *demi-plâtre*. In five minutes after everything is solid. The liquid splints have become firm, and every point is supported with an impartiality heretofore unapproached.

Unless when the soft parts are greatly injured, M. Maisonneuve often applies this apparatus immediately, or may be one day after the accident. This seems unsafe, and indeed I have sometimes seen most discreditable results. However, if any trouble is suspected of existing, there is no apparatus, as a permanent one, that can afford a more easy approach to the limb. And the debarrassment need be only *partial*; for after the removal of the bandage one splint, two splints, or only part of a splint, can be readily taken off, and the remainder stands firmly to its duty. If the parts thus exposed require washes, such can be used with impunity. The splints are not easily softened. In like manner are treated almost all fractures—femur, patella, clavicle, etc., etc.

A great many have failed to have success with this procédé of Maisonneuve, and it has been often because the cloth used was too *fine*. Some coarse material is the thing, such as old coarse hospital sheeting. The solution of plaster should be as thin almost as milk. (*Corr. Am. Med. Times.*)

QUININE AS A PROPHYLACTIC.—An overseer agreed to take charge of several rice plantations in one of the sickliest regions of rice culture, undertaking to spend the summer months on one of the plantations. He made no inquiry as to the health of the one chosen as his residence—it was selected from its convenient locality. When warned of the danger of his residing there in summer, he said he would never have the fever. His confidence in his capacity to resist malarious disease seemed unlimited. The result fully justified this confidence. He lived ten years or more in that neighborhood, spending every summer on the plantation, varied only by an occasional visit to the healthy pine land, where his family resided during the summer. He visited his rice fields without hesitation at any hour, day or night, that his business required. He never had an attack of fever during that time. I saw him after he had been there several years; a finer specimen of robust health it would have been difficult to find. It was ascertained on inquiry, that it was his habit to take quinine daily, during the summer, before leaving his house; the quantity he did not know, for he never weighed it.

He was called in August to see one of the contractors on the Charleston and Savannah Railroad, laboring under a very severe attack of remittent fever, contracted during the superintendence of his contract between the Ashpoo and Combahee rivers, notoriously a very unhealthy region. During his convalescence he in-

formed me that he would have to return to his work on the road, where he had a large number of hands employed (150); that they were negroes brought from healthy regions in North Carolina, and he expected all of them to be more or less sick, as they were entirely unaccustomed to a malarious climate. I advised him to take quinine daily himself, and to give it to all his hands, white or black. Late in the fall I met him in the city; he looked healthy and well. He thanked me for the advice I had given him; told me he had carried up some pounds of quinine; had used it himself daily, and compelled all his employees to take it also; that he himself had never had another attack of fever; that his health was better than it had ever been, and that not a single one of the 150 hands he employed had been attacked by fever. In fact, he said: "The only case of sickness I have had was in a negro who had come from North Carolina sick." (*American Medical Times*.)

ADDISON'S DISEASE.—From a report of Prof. Buhl's pathologico-anatomical demonstrations:

All recent investigators agree that the cortical substance of the suprarenal capsules is of a glandular character, while the interior is possibly a part of the nervous system. These organs may prepare a peculiar secretion which enters the blood; but the results of physiological researches on that point are contradictory. In regard to the extirpation of the capsules in animals the conclusions are also far from satisfactory: the high importance attributed to these capsules by Brown-Séquard is utterly denied by many others.

Disease of the suprarenal capsules has been so far observed either in combination with the peculiar discoloration of the skin (40 cases), or without it (24 cases), while bronzed skin without affection of the capsules has been noticed in ten cases. Fourteen cases of Buhl are included in these. The principal symptoms may therefore be stated to be the bronze-color of the skin, and a progressing loss of strength. The disease is almost invariably of a chronic character, and the prognosis very unfavorable. The usual termination is death, although a few recoveries are reported.

As far as treatment is concerned, tonics, and among them the preparations of iron, seem to be followed sometimes by improvement. As yet, however, there is no evidence of a successful therapeutic influence. The iodide of potassium, proposed by Prof. Seitz, of Munich, has not to be tried.

The conclusions drawn from a minute examination of several cases are as follows: Pigmentary deposits take place not alone in the skin and tongue, but also more or less in the lungs, bronchial glands and spleen, sometimes even in the intestinal and mesenteric glands. They occur in diseases of the lymphatics, spleen, liver and lungs, with and without affection of the suprarenal capsules. The latter is therefore not an essential condition. Very

compact military tubercles are developed, either surrounded by a thick fibrinous capsule, or entirely of a fibrinous consistence. Their development is accompanied by swelling of the affected organs, if these are the lymphatics, spleen, or liver. They appear in the lungs without cavities; in the spleen in pedunculated bunches, connected with the blood-vessels; in the liver reposing on the adventitious branches of the smaller vessels; in the lymphatic glands and suprarenal capsules they are united to the original tissue by fibrinous formations. Caseous degeneration of the affected organ is apt to follow, especially in the suprarenal capsules and lymphatic glands. Bronzed skin, accompanying disease of several important organs which are connected with sanguification, is probably the result of a morbid change of the blood. Direct consequences of this morbid change are the deposition of pigment, emaciation and exhaustion. The nature of the change can be designated as a decrease in quantity, with an unusual decrease of fibrin. Addison's disease must be considered as a particular form of chronic miliary tuberculosis, arising from a peculiar condition of the blood, which condition results from some cause yet unknown. (*Wiener Medizinische Wochenschrift—Lancet and Observer.*)

EFFECTS OF SANTONINE.—The effects of santonine in causing green vision have been known for some time, and an oculist of Nantes, M. Guepin, has experimented largely with this drug, hoping to obtain some beneficial therapeutical results from this peculiar property in certain affections of the retina. A case presented by M. Cavasse to the Medical Society of the Seine last week further illustrates some of the properties of this drug. A very nervous woman, believing that she suffered from worms, purchased from a druggist a drachm of worm-seed, *semen-contra*, in order to rid her bowels of their turbulent inmates. Shortly afterwards colic came on, and chancing to look in the glass she saw herself pea-green. The fright sufficed to throw her into violent convulsions, and her friends, who believed poison to have been swallowed, rushed in a body to accuse the unlucky chemist of manslaughter. Luckily M. Cavasse, well aware of the properties of santonine, and of its presence in *semen-contra*, was called in, and able to reassure the terrified family as to the innocuousness of the medicine to which so much mischief had been attributed. In due time the toxic effects subsided, the green vision disappeared, and the poor patient, comforted by a second look at the mirror, and by the reappearance of her accustomed tint of complexion, recovered from her panic, morally persuaded, however, that she had narrowly escaped death by poisoning. Similar results have been observed in the tropics as consequent upon bites by serpents, really innocuous, but supposed by the sufferers to be venomous. (*London Lancet.*)

REVIEWS.

THE PRINCIPLES AND PRACTICE OF OBSTETRICS. By GUNNING S. BEDFORD, A. M., M. D., Professor of Obstetrics, the Diseases of Women and Children, and Clinical Obstetrics, in the University of New York. 8vo., pp. 715. New York: Samuel S. and William Wood, 389 Broadway. 1861.

This voluminous book comes from a high source. Professor Bedford has long stood before the medical profession with authority in the department which is under his charge in the University of New York. The volume consists of a course of lectures on obstetrics, apparently in the form in which they were delivered to his classes. It covers the whole ground of obstetrics, and its connections; embracing the topics of the anatomy of the pelvis and the generative organs, the mechanism of labor, menstruation, reproduction, pregnancy, parturition, post-partum hæmorrhage, puerperal convulsions, manual labor, the use of the forceps, Cæsa-rean section, embryotomy, puerperal fever and mania, and anæsthetics.

It displays, as would be anticipated from such a source, a thorough acquaintance with the literature of the subject, past and present, down to the very latest practical expedients, and the extensive practical knowledge of a popular obstetrician.

In the style of the book, there are the objectionable qualities that attach to medical lectures when printed for general circulation, and especially to lectures on obstetrics. The colloquial, diffuse style of the lecture-room, eminently appropriate there, is out of place in a printed book, in which we look for conciseness and classical form. In addressing medical students, we naturally and very properly illustrate our instruction as fully as possible by the relation of the clinical experience which they have not had, and which is requisite for a clear understanding of the subjects brought before them. But in a systematic work intended for medical practitioners, all such relations are out of place, in bad taste, if no more. In the great extension of medical literature at present, tasking the efforts of men engaged in practice to keep tolerably well informed on the latest results from the immense field of scientific investigation, it is the duty of those who write for the press to put their thoughts into as small a compass as is compatible with clearness, so that those who refer to their works need not be obliged to wade through pages of verbose matter to hunt up the facts they require.

Dr. Bedford's book is disfigured by the narration of shocking cases of malpractice, which serve no other purpose than to excite a mingled feeling of horror and disgust, and have no scientific

value. He tells long stories, which if not objectionable on any other ground, are decidedly so as being foreign to the purpose of a scientific work. He gravely makes a long speech to assure his readers, that, having been called to see an unmarried woman on whom abortion had been procured by a quack, he thought that neither the misfortune of the woman in having been seduced, nor the crime of the abortionist who had operated upon her, would justify him in refusing to remove the after-birth, which had been retained! He tells a story of two pages, apparently to usher in a *bon mot*, which we give as a specimen:

"He declared to me most positively that he had never had intercourse with the girl, except during her menstruation; and he mentioned the fact on the ground that he had always heard that a woman could not conceive while she had 'her flow upon her.' I remarked to him that I thought his personal experience was now amply sufficient to demonstrate the error of that theory. With cool effrontery he remarked, 'Doctor, I think you know all about it, and if you will only tell me how it is possible to avoid having children, I will make you a substantial present!' 'Sir,' I remarked, 'the only remedy for your case is that you immediately consent to become an *altered man*.'"

How can a learned physician and teacher be willing to put such stuff as the following into a scientific work? It is from a chapter on the management of labor.

"When you enter the room your patient will be reclining on the bed or sofa, or sitting in a chair. In either case you approach her gently and courteously, and instead of saying, 'Well, madam, you are about to have a baby—does it hurt much?' or some such kindred expression, bearing the impress of a vulgar mind; I say, in lieu of such rudeness you enter into conversation with her, talking of anything and everything except of the subject directly connected with the object of your visit. Talk of France, of Egypt, or Kamsetatka, or the marine telegraph: in this way, a little professional diplomacy will enable you very successfully to accustom your patient to your presence. The first interview has passed: she finds that after all it is not such an embarrassing thing to hold converse with a doctor, and you will have impressed her quite favorably by your manner. She will rather like you, and be apt as soon as occasion presents itself, to say to the nurse—'What a clever man that is: he is so very agreeable.' 'Yes, madam,' replies the nurse, 'he knows what he is about.' These mutual compliments between patient and nurse give you a substratum in that family." Can it be necessary to place before a class of Christian gentlemen any other motive of action in their relations with the sick, than the kind consideration which removes all embarrassment from the mind of the *primipara* in presence of her physician, the motive derived from the highest source of Christian teaching? If medical students, more than other men,

need appeals to any other motive than Christian duty and the impulses of humanity—which we doubt—certainly such appeals need not be printed.

Dr. Bedford enters into trifling and needless details in regard to the management of labor; but without further reference to these points, which we have not space to enter upon, we must proceed to examine the character of the material of the work. There is no better mode of setting forth its character and merits, than an examination of Dr. Bedford's views upon several of the leading points in obstetrics—such as convulsions, placenta prævia, Cæsarean section, and puerperal fever.

He recognizes the several causes of convulsions, centric and eccentric—uræmia, indigestion, irritation of the intestines, the bladder and the uterine organs. And consequently fully endorses the discriminating treatment of convulsions according to their cause, a mode of practice which we believe is not even yet universally pursued.

The nature of discussions which have taken place in various medical societies within two or three years past evinces still a want of discrimination of the several causes of puerperal convulsions. Dr. Bedford urges the necessity of directing the treatment directly to the individual cause—the removal of the irritating element. In this, the best authorities now agree. He has a very interesting lecture on on uræmic intoxication, and the convulsions resulting therefrom, including the experiments of Bernard, Brown-Séquard, Hammond, Frerichs, and others; and the doctrine of Frerichs, that the symptoms of uræmia arise from the change of urea into carbonate of ammonia in the blood. On only one important point in practice is he at variance with other recent authorities. He advises the inhalation of ether in convulsions, but says, “never have recourse to it in cases of plethora, until by the judicious use of the lancet the circulation has been duly equalized,” which is a relic of an early prejudice in respect to the operation of anæsthetics, that experience has removed with most practitioners. Dr. T. G. Thomas says, “check the convulsive action at once, and thus prevent death by asphyxia.” To accomplish this indication, “no means is at all comparable with the anæsthetic influence of chloroform. Blood-letting is, in my mind, far inferior to it in its results, much more unreliable, and accompanied by much greater dangers.” “If anæsthesia controls the convulsions, blood-letting should not be resorted to; should it fail to do so, it should then be taken into consideration, and decided upon by the same reasons which would govern such a decision concerning it in pneumonia or any other diseased condition.” (*American Medical Monthly*, May, 1861.)

These are the prevalent views, as we think, at the present time—that there is no condition that contra-indicates the employment of an anæsthetic, as the first step, whatever special treat-

ment the nature of the case in hand may subsequently require, whether blood-letting, an emetic, or a depurant like colchicum.

Prof. Bedford's course in placenta prævia, is to tampon the vagina to produce dilatation of the os uteri, then to turn and deliver, going directly through the placenta, if it should not be found detached on any side. He says: "I am quite aware that in this advice I differ with most of the standard authorities; but I am quite sure I am right. The objections urged by them to the practice inculcated are two-fold: 1st, the difficulty of penetrating the placenta; 2d, the increased risk to the child from lacerations of this body. In reply to the first objection, I need only say that I have encountered very little difficulty in penetrating the mass; and to the second, I would simply remark that the child is exposed to the most imminent peril by delay, and the best alternative in these cases is immediate delivery."

Dr. Bedford is a strong advocate of the Cæsarean section. After exhibiting very fully the opposing views of English and French obstetricians on the subject—the former preferring embryotomy, the latter the Cæsarean section—he says, "I have no hesitation in saying that, if the child be alive, the woman at the completion of her pregnancy, and it be made manifest that the maternal passages are so contracted as to render it physically impossible that a living child can be extracted *per vias naturales*, I should between the two resources—craniotomy and the Cæsarean section—not hesitate to decide in favor of the latter." The author arrives at this conclusion by means of the following mathematical calculation, based on the results of craniotomy in 49 cases in the Dublin Lying-In Hospital, and of Cæsarean section in what number of cases and from what sources it does not appear: "If we adopt Dr. Maunsell's record (Dublin Lying-In Hospital) as a proximate basis for opinion in reference to the relative mortality of the two operations, the Cæsarean section and craniotomy, the evidence will be greatly in favor of the former expedient; for while in craniotomy 1 in 3 of every mother (*sic*) is sacrificed—to say nothing of the contingent injuries, which, if they do not ultimately lead to death, will oftentimes impose upon the surviving mother a life of more or less suffering—every child is necessarily sacrificed. In the Cæsarean operation, on the contrary, one child is lost in every 3 1-3, and one mother in every 2 1-3. If then we suppose the Cæsarean operation to be performed in 49 instances, we shall have, in contrast with 65 deaths, as in craniotomy, a very different result: 1 death in every 2 1-3 of the mothers, and 1 in 3 1-3 of the children."

No doubt a life is a life, inasmuch as it is our duty always to do our utmost to save it: but when the question of saving the mother or saving the child is given us to decide, we cannot understand any one's deciding in favor of the child. But Professor Bedford looks upon mothers and children alike. In our opinion, the

first question is as to the safety of the mother; and 1 death in 5 cases* of craniotomy, compared with 1 death in 2 1-3 cases of Cæsarean section, is just the saving of 40 mothers instead of 28: twelve more mothers preserved in every forty-nine cases. Who is to decide on the comparative value of the two lives which may rest on the action of the physician? The husband and father would usually be allowed to be the judge. And can there be any doubt that his decision would be that the life of the child must be thrown entirely out of the question when the life of his wife is at stake? The author's arguments are very unsatisfactory, in our estimation.

When it can be shown that Cæsarean section saves more mothers than embryotomy, it should certainly be preferred; and it is probable that if employed in selected cases—that is, where all the circumstances of constitution and previous health are favorable—and early, before the patient has become exhausted (a point insisted on by Dr. Bedford), it will present a far better record than it has done. “M. Simon (1749) presented to the Academy of Surgery a collection of sixty-four cases of the Cæsarean section, in more than one-half of which the operation occurred in thirteen women, some of these having been operated on two, three, five, six, and even seven times, and all were successful.”

Dr. Bedford is modern in his view of the contagious character of puerperal fever, but ancient in his treatment. “In *inflammatory puerperal fever*” he bleeds to syncope, follows it with a cathartic, and if the effect is not prompt, uses croton oil. Then directs his attention to the skin, and gives Dover's powder and ipecac every two or three hours, which he follows with blisters, “after the intensity of the disease is somewhat broken,” applied on the inside of the thighs, and kept discharging by the epispastic ointment. In addition to these remedies, he administers every six or eight hours through the disease, “half an ounce of turpentine, with the same quantity of castor oil,” to remove the intestinal flatus, and recommends an application of turpentine to the surface of the abdomen as a counter-irritant. With these *trivial* exceptions, he leaves the case to a kind Providence.

In regard to the adynamic form of puerperal fever, Professor Bedford is unaccountably behind hand. We are accustomed to think that the large proportion of cases of puerperal fever are of this type. It is certainly true of it when appearing as an epi-

* Our statement of “one death in five” cases is based upon Dr. Bedford's quotation from Churchill, who gives the results of 972 instances of craniotomy. Dr. Bedford, in his subsequent arguments in favor of the Cæsarean section, uses the results of 49 cases from the Dublin Lying-In Hospital as his basis, where the results were less favorable than in the larger number reported by Churchill, from British and Continental sources together. But we see no reason for discarding the statistics of Churchill. Taking the worst results of craniotomy, however,—those of the Dublin Hospital, we have more mothers saved than by the Cæsarean section.

demic, and probably in most of the cases that arise from contagion, either from puerperal affections, from erysipelas, or communicated by surgeons and anatomists from their dressings and dissections. Yet there is no evidence, from Dr. Bedford's remarks on the adynamic form of puerperal fever, that he has been in the habit of employing the methods usually adopted in the management of this class of cases at the present day. He does indeed say that depletion is not allowable, and that stimulants, nutriment and pure air are very unequivocally indicated. But when he speaks of quinine, it is with the manner of one who has never used it to cinchonism, if at all; whereas, we have considered the efficacy of quinine in large doses in puerperal peritonitis, a well-established fact in modern medicine. If stimulation and tonic treatment are adopted in this class of diseases, there is no limit to the amount to be employed but in the relief of the symptoms, and such remedies should not be used with a timid hand.

Still less does the author seem to have made use of the opium treatment, although he refers to its employment by Drs. Graves, Stokes and Clark. He says: "I should not here neglect to speak of the opium treatment, both in the sthenic and ataxic varieties of the disease;" and except a few lines about its introduction, and the relation, in a foot note, of one of Professor Clark's cases, showing the large amount which was borne, this is all he says about it. Thus the young gentlemen that form their practice on the views taught in the University of New York go out into the world fully prepared to bleed, blister and purge in every case of puerperal peritonitis they can pronounce "*inflammatory*," while the only methods that ever give us encouragement to think we have much control over the most common form of the disease are passed by without a recommendation for their adoption.

We have no space for further remarks. It is far more agreeable to praise than condemn, but duty is imperative. And when a public teacher of long-established reputation comes before the profession with an elaborate work, professing to contain the whole science and art of the department of medicine which it has been his life-long occupation to teach, his doctrines must be tried by the highest criteria. The world has no occasion for Dr. Bedford's views, if those views do not represent the very top wave, as well as the whole deep sea of his science. We want no mediocre books.

The typographical execution of the book is good, and it forms a very handsome volume, unless one opens upon some of the wood-cuts, which are execrable—both the drawing and the engraving as bad as any we can think of in any medical work; notwithstanding the author says in the preface, "In reference to the illustrations, I have consulted quality rather than quantity."

THE PATHOLOGY AND TREATMENT OF VENEREAL DISEASES; including the results of recent investigations upon the subject. By FREEMAN J. BUMSTEAD, M. D. With illustrations on wood. 8vo., pp. 680. Philadelphia: Blanchard & Lea. 1861.

"The additions to our knowledge of venereal, during the last ten years, have been numerous, and in the highest degree important. Among the most remarkable, may be mentioned the distinct nature of the two species of chancre; the innocuousness of the secretion of the infecting chancre when applied to the person bearing it, or to any individual affected with the syphilitic diathesis; the removal of certain obstacles to a general belief in the contagiousness of secondary lesions; the fact that syphilis pursues the same course, whether derived from a primary or secondary symptom, commencing, in either case, with a chancre at the point where the virus enters the system; the definite period of incubation of the true chancre, and of general manifestations; the inefficiency of the abortive treatment of syphilis; and the phenomena of syphilization and their correct interpretation. Several of these topics are entirely new within the period mentioned, and upon others much clearer views have been obtained; so that our present knowledge of venereal diseases may be regarded as far more complete and satisfactory than at any previous time."

This summary, from Dr. Bumstead's preface, exhibits the nature of the work. Through the zealous investigations in venereal diseases which have been pursued in the large cities and hospitals in Europe and America, their history has undergone such a revolution that whoever first became acquainted with them twenty years ago, and has been out of the current since, must eradicate his previous knowledge, and begin anew from the foundation.

The first part of the book treats of gonorrhœa and its complications. And when we say that this subject occupies 300 pages, it will be seen that it is very thorough and comprehensive. It includes gonorrhœa in men and women, gleet, balanitis, phymosis and paraphymosis, swelled testicle, inflammation of the prostate, gonorrhœal ophthalmia and rheumatism, vegetations, and stricture of the urethra. To the discourses on these subjects, the author brings very great erudition and a considerable personal experience; and one of the great merits of the book, and which makes it especially valuable to the large body of practitioners whose scanty experience in venereal diseases is often very inconvenient when they are consulted, is its minute pathological and therapeutical details.

The second half of the volume is devoted to "The chancroid, its complications; and syphilis." The author has thus adopted the modernly received division of syphilis into two distinct forms, which, under the manifestations of hard and soft chancre, were formerly supposed to arise from the same infection. The question, "Is there more than one kind of syphilitic virus?" is fully dis-

cussed by the light of the best authorities, and it is well established that hard chancre will produce hard chancre alone, and soft chancre will produce soft chancre alone. It is further established that hard chancre only is followed by constitutional symptoms.

The question of mercurial treatment is well disposed of. It is established beyond a doubt that the use of mercury in soft or non-infecting chancre is utterly useless, and even injurious—the only special treatment required being local cleanliness; that “most cases of infecting chancre are sooner or later followed by secondary manifestations, in spite of any treatment which may be adopted;” that mercurials have some influence in hastening the cicatrization of hard chancre, and delaying and somewhat mitigating the secondary symptoms.

The interesting history of syphilization is fully told—of which we will merely present the conclusions reached by Boeck, of the University of Christiania, who has experimented largely on the effects of inoculation. “The method of performing syphilization is very simple, and consists of successive inoculations of chancrous matter upon some convenient part of the body. The virus on each occasion subsequent to the first is taken from the sores produced by the preceding inoculations, of which Boeck makes from eight to ten every three days.” “He never resorts to syphilization for primary syphilis alone, regarding it as uncertain whether general symptoms will follow, and limits the practice to the secondary and tertiary forms of the disease. He states that it is only the first twenty or thirty chancres which attain any considerable size; that the subsequent ones become smaller and smaller; and that finally inoculation of the matter which was first employed ceases to have any effect whatever. When immunity to the first virus is obtained, he takes fresh matter from another source,” and so on as long as any effect is produced. “The average duration of treatment in ordinary cases was about six months, and in the more severe cases of inveterate syphilis from seven to eight months. In summing up the results of his practice, Boeck says: “I have, indeed, the most severe conviction and proof:

“1. That there is no fact more certain, in medical and surgical therapeutics, than the fact of the curability of constitutional syphilis by syphilization.

“2. That this method of curing constitutional syphilis is infinitely more certain than the methods of cure by mercury, iodine, hunger-cure, or any other means yet proposed.

“3. That it is free from the dangers attending the mercurial treatment; and

“4. That relapses are more rare after this than after any other known method of treating secondary or tertiary syphilis.”

The chapters of the second part are on chancres, affection of lymphatic vessels and ganglia attendant upon primary sores, general syphilis, treatment of syphilis, syphilitic fever, affections of

the skin, mucous membranes, eyes, ears, testicle, muscles, tendons, periosteum and bones, and congenital syphilis.

The whole work presents a complete history of venereal diseases, comprising much interesting and valuable material that has been spread through medical journals within the last twenty years—the period of many experiments and investigations on the subject—the whole carefully digested by the aid of the author's extensive personal experience, and offered to the profession in an admirable form. Its completeness is secured by good plates, which are especially full in the anatomy of the genital organs. We have examined it with great satisfaction, and congratulate the medical profession in America on the nationality of a work that may fairly be called original.

A TREATISE ON DISEASES OF THE JOINTS. By RICHARD BARWELL, F.R.C.S., Assistant Surgeon, Charing-Cross Hospital, etc. Illustrated by engravings on wood. 8vo., pp. 457. Philadelphia: Blanchard & Lea. 1861.

The interval which has elapsed since the publication of "Brodie on the Joints," so long our chief authority in this department of surgical pathology, has been a period of the most active research in microscopic anatomy and in physiology, which has had as important an influence upon the subjects included in the present work as upon any other branch of pathology. In Mr. Barwell's treatise there is evidence that the subject has received the thoroughest attention that could be given by one who brings to a favorable field for investigations great industry and all the qualifications for an original observer. "No author is fit," says he in his preface, "to estimate his own work at the moment of its completion, but it may be permitted me to say, that the study of joint diseases has very much occupied my attention, even from my studentship, and that, for the last six or seven years, my devotion to that subject has been almost unremitting. Those minute investigations into the morbid actions of synovial membrane, cartilage, and bone, with which, by the publication of papers in various quarterly and monthly periodicals, my name is connected, were not undertaken so much from love for that sort of work as from a perception that certain links must be supplied, certain entanglements unravelled, and error, if any existed, corrected. The real weight of my work has been at the bedside, and the greatest labor devoted to interpreting symptoms, and remedying their cause."

As a result of his bedside investigations, the subjects are illustrated with sixty-six cases, which always constitute an important part of the wealth of a pathological work.

The volume begins with a very interesting and valuable chapter on the physiological anatomy of the joints. Acute synovitis follows. Then acute rheumatism, with some dissections, which prove that articular rheumatism results, sometimes at least, in a disorganization of the articular tissues—which is not generally

known or allowed. Pyarthrosis, strumous synovitis, rheumatic synovitis, chronic syphilitic, gouty and simple synovitis, hydrarthrosis, and loose cartilages in the joints follow.

The greater part of the remainder of the work is occupied with diseases commencing in the bone—of which one full chapter is devoted to a separate consideration of hip-joint disease. The last chapter is devoted to the subject of resection of joints, an operation which, although first performed by Mr. Filkin of Northwick, England, as early as 1762, who exsected a knee-joint with perfect success, has only quite recently come to be universally recognized as preferable to amputation in a great variety of cases. Even now the Medical Director of the U. S. Army has thought it necessary to recommend it officially in all cases in which it can take the place of amputation.

Had we space, it would afford us much satisfaction to quote largely from the chapters of this excellent work. We must, however, content ourselves with this general notice, and the expression of the opinion that the Philadelphia publishers have selected a work which will be in great demand in this country, as soon as its merits become known.

MEDICAL JURISPRUDENCE. By ALFRED SWAINE TAYLOR, M. D., F.R.S., etc., etc. Fifth American, from the Seventh and Revised London Edition. Edited, with additions, by EDWARD HARTSHORNE, M. D., one of the Surgeons to the Pennsylvania Hospital. 8vo., pp. 701. Philadelphia: Blanchard & Lea. 1861.

Taylor's Medical Jurisprudence has been the leading authority for many years. Any extended notice or critical review of it now is quite unnecessary. It has been critically examined in years past, and received the seal of scientific approbation. The author has enriched each new edition with such additional illustrative cases as have occurred, and the American editor has contributed to this edition the professional experience of this country, on every suitable occasion. The professional estimate of the work may be fairly inferred from the statement on the title-page, that the present is the twelfth edition.

One of Dr. Hartshorne's additions to the work is an account of the epidemic which affected so many of the visitors of the National Hotel in Washington, during the winter and spring of 1857, in which a large number of persons were attacked with violent irritation of the alimentary canal, and many died. There was suspicion of metallic poisoning. But the evidence presented at the inquest of the local Board of Health showed that the symptoms were not those of metallic irritation, but of poisoning by sewer emanations: and that such emanations had been present to a dangerous extent in the most frequented parts of the house, during the whole of the three months of the epidemic visitation. The officers of the Board of Health discovered a stream of sewer

gas (sulphuretted hydrogen), which was flowing through a defective inlet, directly into the cellar of the hotel, with force sufficient to extinguish a lighted candle. Abundant corroborative evidence was furnished, to show beyond a reasonable doubt that this was the cause of the sickness. The pathological condition was ascertained to be that of ulcerative diarrhœa, "a superficial erythematous or catarrhal inflammation of the mucous membrane of the colon." "We have witnessed," says Dr. H., "this peculiar effect of cesspool exhalations, in various degrees, so frequently among prison convicts, that we were satisfied as to its true origin, before the investigations had been undertaken to contradict the erroneous hypothesis of poisoned food or drink. An epidemic of diarrhœa and general intestinal irritation, the exact counterpart of the National Hotel disease, might at any time be developed among the inmates of our prisons by a neglect of the usual cleaning of the privy-pans and pipes."

PLACENTA PRÆVIA; ITS HISTORY AND TREATMENT. By WILLIAM READ, M. D., M. M. S. S., etc. 8vo. pp. 333. Philadelphia: J. B. Lippincott & Co. 1861.

This work constitutes the twenty-third volume of the Library of Practical Medicine, the series published by order of the Massachusetts Medical Society for the use of its Fellows. We do not hesitate, after examination, to pronounce it a very judicious choice on the part of the Society's committee of publication, both in regard to the importance of the subject of which it treats and the manner in which the work has been done.

Dr. Read has always made obstetrics a special study, and, if we mistake not, has been for a number of years diligently accumulating the materials for the present work. He has succeeded in collating probably nearly all the published experience on the subject, and a large number of cases from private sources; so that he has tabulated 1005 cases of placenta prævia, of which he is able to give the principal particulars.

From the records of 1,542,772 cases of labor, he finds that in that number placenta prævia occurred 1276 times—about once in 1200 cases. Of 1628 cases of placenta prævia, which are reported, he finds that 380 resulted in the death of the mother—1 in 4 1-4.

The subject is treated under the following heads: History of placenta prævia; how produced; physiology; special causes of hæmorrhage; treatment. On all these points, all the recognized authorities seem to have been carefully consulted. The chapter on physiology presents the experiments that have been made by injection of the uterus to demonstrate the nature of the utero-placental circulation, which, in the opposite results that have been

arrived at by careful physiologists, leave the question of the vascular relations of the uterus and placenta still unsettled. The author regrets that Professor Dalton in the several instances in which he inflated the placental sinuses through those of the uterus, should not have employed a liquid injection and thus demonstrated the anatomy to the eye; since the careful injections of some others, especially Professor Meigs, have failed to show the connection. The opportunities for these investigations are not very frequent, but it is to be hoped that none of our physiologists will rest satisfied with their experiments on the circulation of the placenta.

Two-thirds of the volume are occupied with the treatment, and include the very elaborate tables of the principal particulars of 1005 cases. The first table includes 51 cases of *spontaneous separation of the placenta, in which labor was completed by natural efforts*; the second, 26 cases of *spontaneous separation of the placenta, with artificial delivery of the child*; the third table, 31 cases of *artificial separation of the placenta, with natural delivery of the child*; the fourth table includes 51 cases in which *both placenta and child were artificially delivered*; and these four tables comprise all the instances in which the placenta was completely detached from the uterus, before the birth of the child. Table fifth contains 123 cases in which the placenta was *partially detached, and natural delivery of the child followed*; table sixth contains 557 cases, in which, with *partial detachment of the placenta, resort to artificial delivery of the child was necessary*—the collection of cases in the table exhibiting the most common combination of conditions, that is, partial detachment and artificial delivery. Table seventh has 89 cases in which the child was delivered by *perforating the placenta*; and table eighth contains 32 cases in which the women died *undelivered*. 891 cases in all,—the author having placed in separate tables in an appendix 114 cases which he found only in published tables, and was unable to consult the original reports.

The last chapter discusses various methods of treatment—*ergot, rupturing the membranes, the tampon, etc.*

The work deserves much more than this hasty notice, and we should be gratified to enter fully into the discussion of its various important points, and present our readers with the summary of the treatment of placenta prævia with which Dr. Read closes; but our confined space limits us to the presentation we have made, and we must rest content with commending the treatise to our readers as one which is exhaustive, at least on the subject of treatment.

EDITORIAL.

WE owe an apology to Dr. Pitkin for the somewhat unsatisfactory appearance of his interesting table of autopsies. The want of space forced us to curtail sentences and abbreviate words in the report far more than we liked to do. We believe, however, that it will all be intelligible and its usefulness will not be impaired. A synopsis of this kind, giving the weight of the principal viscera, becomes very valuable if thoroughly and carefully prepared. We hope the examination and record will be continued at the King's County Hospital. Such tables, if the weighing is done on a uniform plan, are extremely interesting and useful; and if the usual weight of the person could be added, their value would be much enhanced. The figures under the names of the several organs indicate the weight in ounces avoirdupois.

PROF. STILES is delivering the course of lectures on physiology at the College of Physicians and Surgeons, New York, at the present session—Prof. Dalton being on duty as brigade surgeon of General Viele's division, now at Port Royal.

PROFESSOR FORD has prepared for his classes a series of anatomical questions, of which we have received the first fasciculus, containing more than 400 questions on osteology. They are very full, as may be supposed from their number, and cover the structure and relations of all the bones; and as there are no answers printed with them, they form a very valuable catechism.

THE following gentlemen received the degree of doctor of medicine, at the Berkshire Medical College, at the close of the session of 1861, after examination: David DeLoe Bowen, John Thomas Benham, David Foss, George Washington Gale, Jr., Lucius Barstow Irish, Robert Hazard Morey, Louis Edwin Norris, Nathaniel Morton Ransom, Samuel Kenrick Rich, Myron Winslow Robinson, Frank Augustus Sabin, Joel Stevens, Charles Elliot Streeter, Augustus Van Cleef and Nathan Hand Wright; and Robert William Gray, M. D. Bowdoin, *ad eundem*. We are too early in press for further particulars.

CHARLES T. WYBURN, M. D., of Marietta, Ohio, a graduate of the Berkshire Medical College of 1860, is on the list of assistant surgeons who have passed the examination for the volunteer force of Ohio.

WE value our exchanges, and would request the publishers to continue them to the close of the year, in order to make our sets complete.

THE EDITORS' LAST WORDS.—With this number the Berkshire Medical Journal closes, and the editors retire from the scene. They cannot lay down the pen which they have wielded for twelve months in their moderate domain, and part with the friendly circle of readers that has formed around them, without taking advantage of the occasion to express the feelings that spontaneously arise at such a time. And yet probably few of our readers will suppose that there is anything awakening very deep sensibility in an editorial relation of a year's continuance. Let us assure them the yearling is not cast aside without a sigh. Its monthly appearance has been too much in our thoughts, and its preparation has occupied too much of our time, to permit us suddenly to drop it without carrying about for a time a sense of a personal loss. But we have no desire to obtrude personal feelings upon our readers, nor to present them except as the natural prelude to the expression of our gratitude for the very cordial appreci-

ation of our labors, which has come from many sources in the circle of our auditory.

The Journal was established under the most auspicious circumstances that could well concur anywhere away from a large city. Pittsfield in its Medical College, and Berkshire in its superior Medical Society, offered an unusually good foundation for such an enterprise. The Society entered cordially into the project with the editors, with ready appreciation of its common advantages; and the event has fully justified both parties in their anticipations: for while we believe that the publication of their monthly doings has been in many ways a benefit to the Association, we have had ample evidence that nothing in the Journal has surpassed those proceedings in general interest. Nothing that we have published has been more frequently copied.

However favorable our prospects appeared, we entered upon the Journal a year ago with full knowledge of the difficulties and doubts that obstruct all such operations. We accepted the obstacles, hoping to receive failure or success with equanimity, but determined to make a year's experiment. In many respects the experiment has succeeded;—that it has not in all respects, the fact that we relinquish it sufficiently indicates.

Our prospects might at this time be different, and we might now perhaps be girding ourselves anew to the work of journalizing, were our national affairs otherwise than they are. But this alone is reason enough for our duty to come to an end. More than half the medical periodicals that were published at the beginning of the present year in the United States, have stopped. The great retrenchment everywhere practised has cut them off as dispensable luxuries.

Our country's trials that have wrecked so many enterprises, have pressed with heavy hand upon us in another sense. Those not similarly placed cannot realize the desperate effort it has cost to perform the editorial labors in the presence of the great object of overwhelming interest that has absorbed the country. Nothing but the impossibility of avoiding it has enabled us to do our monthly duty while our nationality was hanging trembling in the balance. Every work not directly helping to sustain the government in the execution of the laws seemed trivial and ill-timed. If this was an unnecessary feeling we can only excuse it as a feeling which would not brook control, and which we share with every good citizen.

The plan of the Journal has been to prefer soundness to mere novelty. We have intended to publish the most important physiological and pathological researches. As far as possible, we have avoided relations of diseases that are rarely seen, and operations that only two or three men on a continent perform, and preferred the best views and reports of every-day subjects, and all matters having the broadest connection with medical science. We have had at heart the benefit of the medical profession, the advancement of true science, and the good of humanity. Consequently we have never entered into the politics of colleges and cliques, but we have advocated sanitary statutes and provisions in states and camps.

From brother editors we have received nothing but kindness and cordiality. And in retiring from the privileged circle, we leave our character behind us, with a confidence such as Sir Peter Teazle might have envied—based not so much on our merit as on their courtesy. We trust that if we have ever seemed to use too sharp a critic's pen, we shall be forgiven, in consideration of having been actuated "only by a general honest thought" of "common good to all."

ERRATA.

Page 492, 19th line—for "1857", read "1787."

" 492, last line but four—for *Lewis*', read *Lewis's*.

" 505, 21st line—for *has soiled*, read *had soiled*.

" 505, last line but two—for *will find*, read *will give*.

" 506, last line but eight—for *no special*, read *now special*.

" 507, 29th line—for *ripened*, read *refined*.

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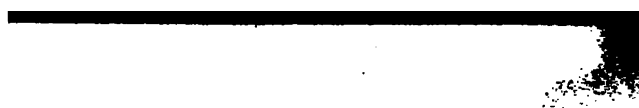
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